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# Memorandum

## Strengthening Structures for HIV Prevention Research in Zambia

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Director  
Global Campaign for Microbicides

**From:** Dr. Benjamin Mason Meier

**CC:** Matthew Pierce

**Date:** 10 May 2010

**Re:** Desk Review: Outline of Stakeholders and Regulations

The present memorandum briefly outlines this project's desk review of the stakeholders and regulations governing HIV research in Zambia. The purpose of the overall project is to support the efforts of the Global Campaign for Microbicides to understand research oversight in Zambia, laying the groundwork for improved microbicide trials. Based upon this initial review, although it is clear that the Ministry of Health (MoH) plays a role in the ethical review process, the ethical review process for research is fairly decentralized and not all roles and responsibilities are presently clearly defined between:

- (1) government stakeholders (between ministries and non-regulating stakeholders),
- (2) research ethics committees (often inside educational institutions), and
- (3) other statutory bodies (some of which are unknown at this time).

This memorandum outlines the official roles of these organizations in the protocol approval process, highlighting gaps in current understandings of the process of research regulation. While it is clear that there are major gaps in Zambian research regulation—gaps that could be clarified through interviews with key stakeholders—further exploration would be recommended only with the advice and consent of Zambian stakeholders. In meeting with these stakeholders, it is expected that this memorandum can frame discussions—to be held in stakeholder meetings by Dr Samu Dube, Head of Africa Programs at the Global Campaign for Microbicides—with these meetings informing the Global Campaign for Microbicides' proposal to establish a presence in Zambia.

*Draft - for internal review only*

The purpose of this desk review is to:

- 1) identify the stakeholders responsible for regulating HIV research in Zambia and describe their respective roles;
- 2) identify non-regulating stakeholders within Zambia who are involved in conducting and monitoring HIV research; and
- 3) identify gaps in current understandings of the process of research regulation.

Based upon these gaps, this desk review seeks to propose a course of action for the Global Campaign for Microbicides to pursue in advancing microbicide research in Zambia.

The stakeholders responsible for regulating HIV Research in Zambia fall into 3 categories:

- 1) Government ministries:
  - a. Ministry of Health (MoH)
  - b. Ministry of Science, Technology and Vocational Training (MSTVT)
  - c. Ministry of Education (MoE) (has only a minor role, if any)
- 2) Regulating statutory bodies:
  - a. National Science and Technology Council (NSTC)
  - b. National HIV/AIDS/STI/TB Council (NAC)
  - c. National Health Research Advisory committee (NHRAC)
  - d. Pharmaceutical Regulatory Authority (PRA)
- 3) Research ethics committees (RECs):
  - a. National REC
  - b. Tropical Disease Research Center (TDRC) REC
  - c. University of Zambia (UNZA) RECs

This memorandum provides a brief overview of how these bodies relate to each other (to the extent that these relationships can be determined) and then provides descriptions of the individual bodies themselves.

## TABLE OF CONTENTS

<b>I. Stakeholders Responsible for Regulating HIV Research in Zambia.....</b>	<b>4</b>
<b>I.A Government Ministries .....</b>	<b>4</b>
I.A.1 Ministry of Health (MoH) .....	4
I.A.2 Ministry of Science, Technology and Vocational Training (MSTVT) .....	6
I.A.3 Ministry of Education (MoE) .....	6
<b>I.B Statutory Bodies for HIV Research.....</b>	<b>7</b>
I.B.1 The National Science and Technology Council (NSTC) .....	7
I.B.2 National HIV/AIDS/STI/TB Council (NAC) .....	8
I.B.3 National Health Research Advisory Committee (NHRAC).....	9
<b>I.C Pharmaceutical Regulatory Authority (PRA).....</b>	<b>10</b>
<b>I.D Research Ethics Committees (RECs).....</b>	<b>10</b>
I.D.1 National REC.....	10
I.D.2 The Tropical Diseases Research Centre's (TDRC's) REC .....	12
I.D.3 University of Zambia's (UNZA's) RECs.....	13
<b>II. Non-regulating Stakeholders.....</b>	<b>16</b>
<b>II.A. Center for Infectious Disease Research in Zambia (CIDRZ) .....</b>	<b>16</b>
<b>II.B. Zambia Forum for Health Research (ZAMFOHR).....</b>	<b>16</b>
<b>II.C. Zambia AIDS Related TB (ZAMBART) .....</b>	<b>16</b>
<b>II.D. Zambian AIDS Law Research and Advocacy Network (ZARAN) .....</b>	<b>17</b>
<b>II.E. Zambian Association for Research and Development (ZARD) .....</b>	<b>17</b>
<b>III. Conclusion .....</b>	<b>18</b>

## I. Stakeholders Responsible for Regulating HIV Research in Zambia

This Section—as depicted diagrammatically in Appendix 1—provides an overview of the lines of authority between government ministries, regulating statutory bodies, and RECs, and also reviews which bodies have direct authority to regulate HIV research. As this review suggests, substantially more information is needed in order to understand how these various organizations relate to each other, how independently they function from ministries, and how they work together to regulate HIV research.

### ***I.A Government Ministries***

#### **I.A.1 Ministry of Health (MoH)**

The MoH is one of 23 ministries in Zambia’s cabinet.<sup>1</sup> There is little information available through the internet about the functions, powers, or organizational structure of the MoH. In the early 1990s, the MoH appears to have had some responsibility for health service delivery, but under the 1995 National Health Service Act, the MoH’s role was limited to policymaking and regulating the health sector.<sup>2</sup> According to one HIV researcher in Zambia, the MoH has recently undergone substantial turnover within the past year due to recent allegations of corruption among top Ministry officials.<sup>3</sup>

Pursuant to its regulatory role, the MoH has direct authority to prohibit entire categories of research, as was exemplified by the Ministry’s 2009 banning of all microbicide trials in Zambia.<sup>4</sup> According to one HIV researcher in Zambia, the MoH has required since 2008 that all HIV research be approved by the MoH’s Permanent Secretary in addition to a research ethics committee, with the MoH requesting quarterly progress reports and a final report to be approved

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<sup>1</sup> “The Cabinet of the Republic of Zambia.

<http://www.statehouse.gov.zm/index.php/the-government/cabinet-and-executive>

<sup>2</sup> Chankova, Slavea and Sara Sulzbach. April 2006. Zambia Health Services and Systems Program. Occasional Paper Series. Human Resources for Health, Number 1. Bethesda, MD: Health Services and Systems Program, Abt Associates Inc. (p. 5).

[http://www.abtassociates.com/reports/HSSP\\_HRSynthesis1.pdf](http://www.abtassociates.com/reports/HSSP_HRSynthesis1.pdf). (Appendix 2)

<sup>3</sup> Last year, top officials at the MoH were found to be involved in a \$2 million corruption scam that led donor nations to withhold funds and to the forced suspension of at least 32 employees at the MoH. “RB’s Ministry of Health funding frozed amidst corruption scandals.” The Zambian Chronicle. 5/28/2009. <http://zambianchronicle.com/?p=4066>; Mweetwa S. “Zambia: 23 health workers detained.” Times of Zambia. 6/1/2009. <http://allafrica.com/stories/200906010600.html>. (Appendix 3).

<sup>4</sup> Kapata moyo M “Zambia debate on HIV gel rages on” Southern Times, 3/2/2010

[http://www.southerntimesafrica.com/article.php?title=Zambia\\_debate\\_on\\_HIV\\_gel\\_rages\\_on\\_&id=3634](http://www.southerntimesafrica.com/article.php?title=Zambia_debate_on_HIV_gel_rages_on_&id=3634) (Appendix 4)

prior to publication.<sup>5</sup> It is not clear how the Permanent Secretary decides whether to approve a given protocol or whether this new requirement applies only to HIV research.

The MoH also appears to have indirect authority to regulate research because it oversees the National HIV/AIDS/STI/TB Council (NAC), the National REC, and the Tropical Diseases Research Center (TDRC). MoH was given authority to initiate the operation of NAC by the 2002 National HIV/AIDS/STI/TB Council Act (NAC Act).<sup>6</sup> MoH appears to exercise fairly direct control over the NAC since it was responsible for authoring and implementing the 2005 NAC Policy.<sup>7</sup> It is not clear, however, whether the NAC is embedded within MoH or is organizationally distinct.

The MoH also has some direct oversight over the National REC and the TDRC. The exact nature of this oversight, however, requires further clarification. As with the NAC, it is not clear whether the National REC is organizationally embedded within the MoH or is a distinct entity. The TDRC, by contrast, does clearly function independently of the MoH; in fact, the decision to create a National REC appears, in part, to have resulted from the fact that the TDRC and UNZA RECs (discussed in Section I.D) operated under the standards of their respective institutions rather than under a single, national standard of ethical review.<sup>8</sup> Nevertheless, the MoH does have some authority over TDRC: under the TDRC Act, the Minister of Health may give the TDRC Board “general or specific directions with respect to the discharge of its functions as he may consider necessary.”<sup>9</sup>

It is not clear whether the MoH also oversees the National Health Research Advisory Committee (NHRAC) and the UNZA RECs. The NHRAC does work very closely with the MoH: it was established by the MoH in 1998 and serves as an advisory committee to MoH, helping to build MoH capacity.<sup>10</sup> At one point, NHRAC even set up a website within the MoH’s main website,<sup>11</sup> but that website is either no longer operational or has been moved to a different URL. This close working relationship and the fact that the MoH established the NHRAC suggest that the MoH

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<sup>5</sup> Private communications with an HIV researcher, one of whom is about to start a research study in Zambia and the other who has been conducting research in Zambia for several years.

<sup>6</sup> Act 10 of 2002. National HIV/AIDS/STI/TB Council. Enacted December 31, 2002 (Appendix 5)

<sup>7</sup> Ministry of Health. National HIV/AIDS/STI/TB Policy (2005) (Appendix 6, title page and p. 46)

<sup>8</sup> Ngandwe T. “Research ethics ‘watchdog’ planned in Zambia.” Science and Development Network. 2/2005. <http://www.scidev.net/en/news/research-ethics-watchdog-planned-in-zambia.html>; Sikateyo B, “Establishment of a National Ethics Committee in Zambia,” Bioethics Exchange. 2005; 1:1,3.

[http://www.bioethicsinstitute.org/data/images/bioethics%20exchange/bioethicsexchangevol1\\_2\\_march.pdf](http://www.bioethicsinstitute.org/data/images/bioethics%20exchange/bioethicsexchangevol1_2_march.pdf) (Appendix 7)

<sup>9</sup> The Tropical Diseases Research Centre Act, Chapter 301, Part II 6(4). Accessed at: <http://www.lexadin.nl/wlg/legis/nofr/oeur/lxwezam.htm> (Appendix 8)

<sup>10</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9, p. 14) Accessed at: <http://www.cohred.org/Zambia>

<sup>11</sup> *Id.*

may have some oversight of the NHRAC, even though an organizational chart in a 2008 report by the Council on Health Research for Development (COHRED) does not depict the NHRAC as operating under the MoH.<sup>12</sup> There is conflicting information about whether the MoH oversees the three RECs at UNZA. The details of this conflict are discussed in Section I.D.

#### **I.A.2 Ministry of Science, Technology and Vocational Training (MSTVT)**

The Ministry of Science Technology and Vocational Training (MSTVT) was established in 1992 by presidential order and is now a part of the President's cabinet.<sup>13</sup> According to the MSTVT's most recently available Strategic Plan (2003 -2007), the MSTVT's mission is to "effectively facilitate and promote the development and application of science and technology; and provision of technical, vocational and entrepreneurship skills for sustainable national economic growth and improved quality of life."<sup>14</sup> This mission appears to encompass the objective of increasing research capacity but not direct regulation of research.<sup>15</sup>

The MSTVT does, however, have some oversight of the National Science and Technology Council (NSTC), which in turn has the power to regulate research centers. Under the 1997 Science and Technology Act, the 13 members of the NSTC are appointed by the Minister of Science, Technology, and Vocational Training.<sup>16</sup> It is likely that this power to appoint translates into some influence over the NSTC. Nevertheless, the NSTC does appear to be a distinct organization from the MSTVT and is described on the MSTVT's website as "semi autonomous of government."<sup>17</sup>

#### **I.A.3 Ministry of Education (MoE)**

Of the three ministries discussed in this section, the MoE appears to have the least involvement in regulating research but does have some oversight of the University of Zambia, within which the UNZA RECs appear to operate. The MoE's website and its 2003-2007 Strategic Plan, however, do not indicate that it has any direct involvement in regulating research.<sup>18</sup>

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<sup>12</sup> *Id.* at 15 (Appendix 9).

<sup>13</sup> MSTVT website

[http://www.mstvt.gov.zm/index.php?option=com\\_content&view=article&id=50&Itemid=57](http://www.mstvt.gov.zm/index.php?option=com_content&view=article&id=50&Itemid=57)

<sup>14</sup> Ministry of Science, Technology and Vocational Training. Strategic Plan for Ministry of Science, Technology and Vocational Training 2003 – 2007. Lusaka, 2002. (Appendix 10, p. 28)

<sup>15</sup> See *id.* at 29-36.

<sup>16</sup> The Science and Technology Act, no. 26 of 1997 (Appendix 11)

<sup>17</sup> MSTVT website

[http://www.mstvt.gov.zm/index.php?option=com\\_content&view=article&id=60&Itemid=68](http://www.mstvt.gov.zm/index.php?option=com_content&view=article&id=60&Itemid=68)

<sup>18</sup> Ministry of Education website. <http://www.moe.gov.zm/>; Ministry of Education. Strategic Plan 2003 – 2007 (Appendix 11).

## **I.B Statutory Bodies for HIV Research**

### **I.B.1 The National Science and Technology Council (NSTC)**

NSTC was established under the 1997 Science and Technology Act,<sup>19</sup> which the 2008 COHRED report describes as the “overarching framework for research” in Zambia.<sup>20</sup> The Science and Technology Act outlines NSTC’s organizational structure such that:

- 5(1) The Council shall consist of thirteen members appointed by the Minister [of Science, Technology, and Vocational Training] as follows:
- (a) two members from any research institute or centre established under this Act;
  - (b) two members from any public or private university;
  - (c) a member from a technical college;
  - (d) an engineer from industry;
  - (e) a member with rich business and commercial experience in the private sector; and
  - (f) a member each from the ministries responsible for science and technology, environment and natural resources, health, commerce and trade, agriculture and mines.<sup>21</sup>

According to the COHRED report, NSTC has four Committees, which act as its think tank on technical, administrative, finance, and procurement issues that arise in the process of fulfilling its functions. Undertaking day-to-day operations through a Council Secretariat, the NSTC looks to two major departments: the Science and Technology Technical Department and the Administration and Finance Department.”<sup>22</sup>

Under Science and Technology Act, NSTC shall “regulate research in science and technology in Zambia” and “register [research] institutes and centres.” This language would appear to require the TDRC and the UNZA to register through the NSTC and thus suggests that the NSTC has some regulatory authority over the TDRC and UNZA RECs. The NSTC’s website has a link to a page that identifies “registered institutions,” but that page is currently under construction, so it was not possible to confirm whether the TDRC and UNZA are, in fact, registered through the NSTC. In addition to its power to regulate research and register research centers, the NSTC also has a broad mandate promote research and to set research priorities for Zambia.<sup>23</sup>

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<sup>19</sup> The Science and Technology Act, no. 26 of 1997 (Appendix 11).

<sup>20</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9, p. 14) Accessed at: <http://www.cohred.org/Zambia>.

<sup>21</sup> *Id.*

<sup>22</sup> The Science and Technology Act, no. 26 of 1997 (Appendix 11).

<sup>23</sup> The Science and Technology Act, no. 26 of 1997 (Appendix 11), Part II 4(2)(a), (f), (i), (j), (n), (o).

Despite the extensive authority that the Science and Technology Act confers on the NSTC, it is not clear how the NSTC regulates research. According to the COHRED report, “NCST operates under a clear legal framework but coordination with research institutions and enforcement of NCST policies is difficult.”<sup>24</sup> The NSTC is apparently interested in “pool[ing] research funding through a single window,”<sup>25</sup> but it is not clear whether this would mean that external funding that currently goes through UNZA, TDRC, and other research centers would be siphoned to NSTC or whether this interest applies only to funds from the Zambian government. Finally, it is not clear how the NSTC decides which research institutes to register or what that process entails.

### **I.B.2 National HIV/AIDS/STI/TB Council (NAC)**

The NAC was established in 2002 by the National HIV/AIDS/STI/TB Council Act (NAC Act).<sup>26</sup> Like the TDRC, the NAC is a statutory body under the MoH. The NAC appears to have been established in order to coordinate Zambia’s response to tuberculosis, HIV, AIDS, and other sexually transmitted infections. Part II section 4(1) of the NAC Act states:

The functions of the Council shall be to coordinate and support the development, monitoring and evaluation of the multi-sectoral national response for the prevention and combating of the spread of HIV, AIDS, STI, and TB in order to reduce personal, social and economic impacts of HIV, AIDS, STI, and TB.

Section 4(2) outlines more specific functions, but does not explicitly indicate that the NAC will have the authority to regulate HIV research. The provision that comes closest to granting the NAC regulatory authority of HIV research is Section 4(2)(d), which states that the NAC shall “develop a national HIV, AIDS, STI, and TB research agenda and strategic which shall include the question for a cure for HIV, AIDS as one of the research priorities.”

Notwithstanding the absence of any mandate to regulate research within the NAC Act, Section 5.10 of the 2005 NAC Policy states that:

In order to promote and support HIV/AIDS related research and development, the Government shall: ...

(c) Ensure that appropriate ethical review committees prior to research being undertaken approve research.

The placement of the responsibility on the “Government” rather than on the NAC itself suggests that the NAC’s role in ensuring ethical review of HIV research may be ancillary. Still, the fact that this mandate is included in the NAC policy raises the possibility that the NAC does have some role in the regulation of HIV research, even if only a coordinating function.

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<sup>24</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9, p. 13) Accessed at: <http://www.cohred.org/Zambia>.

<sup>25</sup> *Id.*

<sup>26</sup> Act 10 of 2002. National HIV/AIDS/STI/TB Council. Enacted December 31, 2002 (Appendix 5).

### I.B.3 National Health Research Advisory Committee (NHRAC)

The COHRED report refers to the National Health Research Advisory Committee as a “statutory body,” but it appears to have been established by the MoH rather than by an Act of Parliament.<sup>27</sup> Similar to the NAC and the NSTC, the NHRAC’s focus appears to be promoting research and setting priorities rather than restricting or regulating research. The COHRED Report describes NHRAC as follows:

NHRAC consists of members drawn from various research institutions. It’s [sic] terms of reference includes advising the Minister of Health on how health research could be better conducted in the country, leading priority setting, handling communication related to health research, and building MoH capacity in the use of research findings.<sup>28</sup>

A 2006 report by the Zambia Forum for Health Research (ZAMFOHR) indicates that the NHRAC “meets quarterly and advises the MoH on research results and setting research priorities.”<sup>29</sup>

Although it has been in existence for over 10 years, the NHRAC still appears to be under development. According to the COHRED Report:

NHRAC’s functioning is hampered by the fact that it has no secretariat. Although the NHRAC exists as the designated coordinator for health research, in practice it is therefore not yet fully functional. It will be stronger and more effective when a secretariat is provided internally within the MoH or externally by contracting out to a suitable body.<sup>30</sup>

Echoing this description, a 2009 WHO report refers to the “ongoing development” of the NHRAC.<sup>31</sup>

It is not clear whether a secretariat has been appointed since the 2008 COHRED Report. It is also not clear how the respective roles of the NHRAC, the NAC, and the NSTC are delineated given their mutual interest in promoting research and coordinating research strategies.

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<sup>27</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9, p. 14) Accessed at: <http://www.cohred.org/Zambia>.

<sup>28</sup> *Id.*

<sup>29</sup> Shonga RC, Chonya LN. Report on the Second Consultative Meeting of the Zambia Forum for Health Research (ZAMFOHR). 2006. (Appendix 13, p. 2)

<sup>30</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9, p. 14) Accessed at: <http://www.cohred.org/Zambia>.

<sup>31</sup> World Health Organization. Zambia: Taking forward action on human resources for health with DFID/OGAC and other partners. 3 March 2009,

[http://www.who.int/workforcealliance/knowledge/publications/partner/tfa\\_zambia.pdf](http://www.who.int/workforcealliance/knowledge/publications/partner/tfa_zambia.pdf) (Appendix 14, p. 55).

### ***I.C Pharmaceutical Regulatory Authority (PRA)***

The Pharmaceutical Regulatory Authority (PRA) was established in 2004 through an Act of Parliament to inspect pharmaceuticals that are imported into Zambia and register all pharmaceuticals that appear on the market or in clinical research.<sup>32</sup> As Appendix 1 suggests, it is not clear who oversees the PRA. A PowerPoint presentation by the Director General of the PRA describes the PRA as “an autonomous body corporate,”<sup>33</sup> but the Permanent Secretary of the MoH appears to be the Chair of the PRA,<sup>34</sup> suggesting that the MoH may have some influence over the PRA.

### ***I.D Research Ethics Committees (RECs)***

There appear to be 5 RECs in Zambia:

- 1) the National REC;
- 2) the TDRC REC; and
- 3) 3 RECs at the UNZA
  - a) the Biomedical REC,
  - b) the Natural and Applied Sciences REC, and
  - c) the Humanities and Social Sciences REC.

The RECs at the TDRC and the UNZA provide ethical review for individual studies, although it is unclear exactly how it is decided whether a study must be reviewed by the TDRC REC or one of the RECS at UNZA. Because the National REC is more recent, the nature of its relationship with the other RECs remains unclear.

#### **I.D.1 National REC**

In January 2005, then Minister of Health announced plans to establish a National REC. The announcement appeared to have been motivated by two concerns:

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<sup>32</sup> There is contradictory information about how the PRA was created. A USAID contractor’s trip report indicates that the PRA was established through a 2004 revision to the Food and Drugs Act. (Appendix 15). A PowerPoint presentation that appears to have been presented by the Director General of the PRA indicates that the PRA was established under the Pharmaceutical Act (No. 14) of 2004. (Appendix 16).

<sup>33</sup> Mwape E. Workshop on Flexibilities in International Intellectual Property Rules and Local Production of Pharmaceuticals for Southern, Central and West African Region. 2009. [http://www.unctad.org/sections/dite\\_totip/docs/tot\\_ip\\_0015\\_en.pdf](http://www.unctad.org/sections/dite_totip/docs/tot_ip_0015_en.pdf)

<sup>34</sup> Tran D, Risha P. Rational Pharmaceutical Management Plus Quality Assurance of Medicines in Zambia—An Assessment Visit to the Zambia Pharmaceutical Regulatory Authority: Trip Report. 2006. (Appendix 16, p. 7).

- 1) that the TDRC and UNZA RECs did not cover all research, such that some research was being conducted in Zambia without any ethical review, and
- 2) that the TDRC and the UNZA RECs operated under their respective organizations' guidelines, such that there was no national ethical standard for determining whether research proposals should be approved.

Shortly after the announcement, one newspaper article reported that the Ministry of Justice would appoint the members of the National REC and that the National REC might supplant the UNZA RECs and the TDRC REC. The article also stated that the National REC's members were to be appointed within the year.<sup>35</sup>

Subsequent reports indicate, however, that the National REC was not established until 2008, and it is still not clear whether it is operational or how it functions. A 2008 report by the Council on Health Research for Development (COHRED), which was based on interviews conducted from May to August 2007 and internet searches conducted until May 2008, indicated that the MoH was still in the process of establishing a National REC.<sup>36</sup> A December 2008 report by the then-Chair of the UNZA Biomedical REC, Esther Nkandu, indicated that the MoH had established the National REC, though she suggested it was not fully operational: "The Ministry of Health in Zambia has now established a National Research Ethics Committee (REC), which *will* deal with issues of policy and accreditation and *will* further consolidate the legal framework for conducting research in the country" (emphasis added).<sup>37</sup>

The current status of the National REC is unclear. Nkandu's description of the National REC's functions suggests that the National REC may not review individual study protocols since it will be focused on "issues of policy and accreditation." Moreover, based on conversations with two HIV researchers currently working in Zambia, it is clear that the National REC has not supplanted the UNZA RECs, as studies have either just undergone or are about to undergo review by one of the UNZA RECs. As one of the HIV researchers stated, there are "no formal guidelines and things are changing all the time."

Because the exact status of the National REC and its relationship with the UNZA and the TDRC RECs remains unclear, an analysis of the National REC will require research beyond the scope of this desk review.

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<sup>35</sup> Ngandwe T. "Research ethics 'watchdog' planned in Zambia." Science and Development Network. 2/2005. <http://www.scidev.net/en/news/research-ethics-watchdog-planned-in-zambia.html>; Sikateyo B, "Establishment of a National Ethics Committee in Zambia," Bioethics Exchange. 2005; 1:1,3.

<sup>36</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9) Accessed at: <http://www.cohred.org/Zambia>.

<sup>37</sup> Nkandu E. University of Zambia Biomedical Research Ethics Committee. Ethically Speaking. 2008;11:55-57. [http://ec.europa.eu/european\\_group\\_ethics/publications/docs/es\\_issue\\_nr11.pdf](http://ec.europa.eu/european_group_ethics/publications/docs/es_issue_nr11.pdf) (Appendix 18).

## I.D.2 The Tropical Diseases Research Centre's (TDRC's) REC

TDRC was initiated through a collaboration between the World Health Organization and the Zambian Government and, in January 1981, became a “National Institution for research, training, and service in diseases of public health importance in Zambia.”<sup>38</sup> In 1984, Zambia’s Parliament passed the Tropical Disease Research Centre Act, which constituted the Tropical Disease Centre as a statutory body under the MoH. Under the TDRC Act, “The Minister [of Health] may give to the [TDRC] Board such general or specific directions with respect to the discharge of its functions as he may consider necessary and the Board shall give effect to such directions.”<sup>39</sup> Pursuant to this authority, the TDRC conducts a substantial amount of health research, most of which is supported by external donor agencies or collaborating institutions.<sup>40</sup>

Part II of the Tropical Disease Research Centre Act outlines the TDRC’s Board functions:

- 6(1) The functions of the [TDRC] Board shall be to conduct research and training in tropical diseases and to do all such acts and things as are necessary for or conducive to the attainment of that purpose.
- 6(2) Without prejudice to the generality of subsection (1), the Board may-
  - a) formulate plans and policies for the Centre;
  - b) conduct research and develop research methodologies;
  - c) support research programmes relating to disease control and primary health care;
  - d) train scientists in research related to tropical diseases;
  - e) provide facilities for international research and training;
  - f) liaise with other scientific bodies within and outside Zambia;
  - g) collect and disseminate scientific information including the publication of scientific reports, journals and other such documents and literature relating to the work of the [TDRC].

The Act does not mention the establishment of a REC, and it is not clear when the TDRC REC was initiated.

In considering the TDRC’s role in ethical review, the UNZA and TDRC RECs divide their labor geographically: the UNZA RECs are responsible for reviewing all research proposals from the southern part of Zambia while the TDRC REC is responsible for all research protocols from the northern part of Zambia. This description of the TDRC and UNZA RECs respective jurisdictions, however, seems slightly at odds with the UNZA DRGS’s REC Policy Statement, which suggests

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<sup>38</sup> TDRC website. <http://www.tdrc.org.zm/profile.html>; <http://www.tdrc.org.zm/ethics.html> (NB. TDRC’s home page is not accessible, but these pages within the site can be accessed and were used for this Desk Review.)

<sup>39</sup> The Tropical Diseases Research Centre Act, Chapter 301, Part II 6(4). Accessed at: <http://www.lexadin.nl/wlg/legis/nofr/oeur/lxwezam.htm> (Appendix 8).

<sup>40</sup> Tropical Diseases Research Centre in Zambia – RCP for Southern Africa. Accessed at: <http://www.cpnafrica.eu/?menu=10&page=14>.

that whether a protocol must be reviewed by a UNZA REC depends on whether the individuals responsible for the research are affiliated or collaborating with the University of Zambia, not on the protocol's geographic focus.<sup>41</sup> Furthermore, to the extent that all research is presumably conducted in either the northern part of Zambia or the southern part of Zambia, it seems inconsistent with the former Minister of Health's concern that some research studies fell outside the jurisdiction of the TDRC and UNZA RECs.

TDRC's website lists the members of its REC as follows, although it is not clear when the site was last updated:

Member	Category	Position
Dr. T.J. Ngulube	Senior Research Fellow/ Physician	Chairman
Dr. M. Mukunyandela	Physician	Vice Chairman
Dr. E. Chomba	Paediatrician	Member
Dr. J.B. Sakala	Legal Practitioner	Member
Mrs. B. Sichali	Community Women's Representative	Member
Mrs. C. Chunda	Nursing Officer (Rtd)	Member
Fr. R. Chanda	Catholic Priest	Member
Dr. Gershom Chongwe	Senior Scientific Officer	Secretary

TDRC provides no publicly-available information about the REC's review process or the its guiding principles – documents that would need to be collected through contacts with TDRC.

### I.D.3 University of Zambia's (UNZA's) RECs

There is conflicting information regarding the organizational structure that oversees the UNZA REC. A recent report from the University of Zambia indicates that the UNZA REC is embedded within the overall organizational structure of the University of Zambia and operates under the Directorate of Research and Graduate Studies at the university (Appendix 1). Former Minister of Health Brian Chituwo also recognized that both the UNZA REC and the TDRC REC were each overseen by their respective institutions when he announced the need for a new National REC in

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<sup>41</sup> The University of Zambia Directorate of Research and Graduate Studies, "Statement of the University of Zambia Research Ethics Committees (UNZA RECS)," available at [http://www.unza.zm/index.php?option=com\\_content&task=view&id=495&Itemid=1](http://www.unza.zm/index.php?option=com_content&task=view&id=495&Itemid=1) (Appendix 19).

2005.<sup>42</sup> If the UNZA REC is within the overall structure of the University of Zambia, then it ultimately falls under the University Council, which is appointed by the Minister of Education.<sup>43</sup>

TDRC states that the UNZA and TDRC RECs “are legally constituted bodies whose chairpersons and members are appointed by the Minister of Health.”<sup>44</sup> This language suggests that the Minister of Health may have legislative authority to appoint the chair and members of the UNZA REC. Furthermore, an organizational chart in the 2008 COHRED Report shows the UNZA REC and the TDRC REC as somewhat independent entities, not directly under the control of their respective institutions. This organizational chart also shows the University of Zambia School of Medicine under the MoH, not the MoE.<sup>45</sup>

A 2009 report from the UNZA Directorate of Research and Graduate Studies (DRGS) states that “the number of [RECs] shall be based on the levels of research activities and the cluster of disciplines,”<sup>46</sup> and there currently appear to be 3 RECS at UNZA:

- 1) the Biomedical REC;
- 2) the Natural and Applied Sciences REC; and
- 3) the Humanities and Social Sciences REC.

All three RECs must include a representative from the UNZA School of Medicine, and based on their titles, it is at least possible that each REC could be responsible for reviewing some HIV-related research. According to the Statement on UNZA Research Ethics Committees, all applications must first go through the Director of DRGS.<sup>47</sup>

The DRGS describes the functions of the UNZA RECs as follows:

The main role of a Research Ethics Committees is to review and approve research proposals and protocols dealing with human and animal participants. The specific functions of the Research Ethics Committees are:

- (a) Review and approve all research proposals and protocols that deal with human

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<sup>42</sup> Ngandwe T. “Research ethics ‘watchdog’ planned in Zambia.” Science and Development Network. 2/2005. <http://www.scidev.net/en/news/research-ethics-watchdog-planned-in-zambia.html>; Sikateyo B, “Establishment of a National Ethics Committee in Zambia,” Bioethics Exchange. 2005; 1:1,3, [http://www.bioethicsinstitute.org/data/images/bioethics%20exchange/bioethicsexchangevol1\\_2\\_march.pdf](http://www.bioethicsinstitute.org/data/images/bioethics%20exchange/bioethicsexchangevol1_2_march.pdf) (Appendix 7).

<sup>43</sup> University Act No. 11 of 1999 (Appendix 20).

<sup>44</sup> TDRC website. <http://www.tdrc.org.zm/profile.html>; <http://www.tdrc.org.zm/ethics.html>.

<sup>45</sup> COHRED. Zambia: Alignment and harmonization in health research. 2008 (Appendix 9, p. 15) Accessed at: <http://www.cohred.org/Zambia>.

<sup>46</sup> The University of Zambia Directorate of Graduate and Research Studies. Research policy and intellectual property rights. 6/2009

[\(Appendix 21\).](http://www.unza.zm/index2.php?option=com_docman&task=doc_view&gid=75&Itemid=73)

<sup>47</sup> *Id.*

- and animal participants;
- (b) Enforce high ethical standards on research done on human and animal participants;
  - (c) Protect the interests of researchers who are conducting research following the approved protocols/proposals;
  - (d) Monitor approved research project to ensure ethical compliance;
  - (e) Participate in the training and/or sensitization of staff and students in research ethics; and
  - (f) Report to the Research Board, through the DRGS.<sup>48</sup>

All research conducted by researchers at the University of Zambia, including collaborations with researchers at other institutions, must be approved by a UNZA REC. It is not clear whether any research not involving collaborations with or employees of UNZA must receive approval from a UNZA REC.

In considering each REC composition, membership requirements differ for each of the RECs, with each respective REC including representatives from:<sup>49</sup>

<b>Biomedical REC</b>	<b>Natural and Applied Sciences REC</b>	<b>Humanities and Social Sciences REC</b>
<ul style="list-style-type: none"> <li>• School of Medicine</li> <li>• University Teaching Hospital</li> <li>• School of Veterinary Medicine/ School of Agricultural Sciences</li> <li>• Institute of Economic of Economic and Social Research (INESOR) or the National Institute for Scientific and Industrial Research (NISIR)</li> <li>• Ministry of Health</li> <li>• Ministry of Agriculture</li> <li>• Legal Council, University of Zambia</li> <li>• Religious Leader</li> <li>• General Public/Civil Society</li> <li>• Directorate of Research and Graduate Studies</li> </ul>	<ul style="list-style-type: none"> <li>• School of Natural Sciences</li> <li>• School of Medicine</li> <li>• School of Engineering</li> <li>• School of Agriculture</li> <li>• School of Mines</li> <li>• Institute of Economic of Economic and Social Research (INESOR)</li> <li>• Zambia Agriculture Research Institute</li> <li>• Legal Counsel, University of Zambia</li> <li>• Religious Leader</li> <li>• General Public/Civil Society</li> <li>• Directorate of Research and Graduate Studies.</li> </ul>	<ul style="list-style-type: none"> <li>• School of Humanities and Sciences</li> <li>• School of Education</li> <li>• School of Medicine</li> <li>• School of Law</li> <li>• Institute of Economic of Economic and Social Research (INESOR)</li> <li>• Religious Leader</li> <li>• General Public/Civil Society</li> <li>• Directorate of Research and Graduate Studies</li> </ul>

In deciding each REC's guiding principles, the DRGS Statement on the University of Zambia Research Ethics Committees states that "all research must strictly abide by the International

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<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

Ethical Guidelines for research involving human and animal participants.”<sup>50</sup> Moving through this process, it is clear that it is a lengthy process—with the REC meeting once a month and to review a certain number of studies—leaving researchers expecting an initial review of about 3 months, with more than one review usually, if not always, required.

## **II. Non-regulating Stakeholders**

In addition to the entities that are responsible for regulating research, there are several organizations that are likely to have an interest in how HIV research regulations continue to evolve in Zambia.

### ***II.A. Center for Infectious Disease Research in Zambia (CIDRZ)***

CIDRZ is one of the main organizations conducting HIV/AIDS research in Zambia. According to the website, “CIDRZ has completed 30 research projects, has another 20 ongoing studies and another 23 being planned.”<sup>51</sup> In 2009, the Doris Duke Foundation awarded \$11.1 million to a joint project by CIDRZ and the University of Alabama to implement and evaluate a clinical mentoring and community engagement program to improve health outcomes.<sup>52</sup> The Primary Investigator for this grant, Dr. Jeffrey Stringer, also appears to have been leading one of the microbicide trials that was recently banned by the MoH.<sup>53</sup>

### ***II.B. Zambia Forum for Health Research (ZAMFOHR)***

ZAMFOHR appears to be focused on translating research into practice in Zambia. It does this by synthesizing relevant for research and capacity building to connect research with research-users. Most important to the functioning of research approval policy, ZAMFOHR’s website also contains a database of health research being undertaken in Zambia.<sup>54</sup>

### ***II.C. Zambia AIDS Related TB (ZAMBART)***

The ZAMBART (Zambia AIDS Related TB) Project is a Zambian NGO formed in 2004 from a

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<sup>50</sup> The University of Zambia Directorate of Research and Graduate Studies, “Statement of the University of Zambia Research Ethics Committees (UNZA RECS),” available at [http://www.unza.zm/index.php?option=com\\_content&task=view&id=495&Itemid=1](http://www.unza.zm/index.php?option=com_content&task=view&id=495&Itemid=1) (Appendix 19).

<sup>51</sup> Center for Infectious Disease Research in Zambia, <http://www.cidrz.org/>.

<sup>52</sup> Doris Duke Charitable Foundation, Approximately \$44 Million Committed to Support Four Partnerships to Strengthen Health Systems Serving 3.5 Million People in Sub-Saharan Africa, available at [http://www.ddcf.org/Global/doris\\_duke\\_files/download\\_files/090731PHITpressrelease1.pdf](http://www.ddcf.org/Global/doris_duke_files/download_files/090731PHITpressrelease1.pdf).

<sup>53</sup> Kapata M “Zambia debate on HIV gel rages on” Southern Times, 3/2/2010 [http://www.southerntimesafrica.com/article.php?title=Zambia\\_debate\\_on\\_HIV\\_gel\\_rages\\_on\\_&id=3634](http://www.southerntimesafrica.com/article.php?title=Zambia_debate_on_HIV_gel_rages_on_&id=3634) (Appendix 4).

<sup>54</sup> Zambia Forum for Health Research, <http://www.zamfohr.org/aboutus.html>.

collaboration between the School of Medicine University of Zambia and the London School of Hygiene and Tropical Medicine. From the initial studies of the impact of HIV on the clinical presentation and outcome of tuberculosis, the scope and partnership of the research have expanded widely. Based in the School of Medicine Ridgeway campus of the University of Zambia in Lusaka, the ZAMBART Project now collaborates closely with governmental, non-governmental and academic institutions within Zambia, Africa and the rest of the world.

ZAMBART staff form an interdisciplinary team with a range of expertise, including epidemiology, clinical science, social science, laboratory, operations research, health systems and services research, health policy analysis, health economics and counseling.

ZAMBART focuses on the overlap between HIV and TB in order to improve the quality of life of people affected by these dual epidemics. Conducting research within a limited resource setting, ZAMBART is committed to:

- Bridging research and action through operational research and through forging effective collaboration with local stakeholders;
- Providing evidence-based and high quality research;
- Addressing relevant and priority questions;
- Capacity building - managerial, technical and scientific - is inherent in ZAMBART's approach.”<sup>55</sup>

Zambart appears to be a collaborating partner with CIDRZ on the \$11 million project funded by the Doris Duke Foundation.<sup>56</sup>

#### ***II.D. Zambian AIDSLaw Research and Advocacy Network (ZARAN)***

According to its website, ZARAN is the only NGO in Zambia to take a “rights based response to HIV and AIDS.” ZARAN publishes a quarterly newsletter, and the April – June 2008 issue had a cover story entitled “Ethics in Research Trials Involving Humans.” Unfortunately, archives of the newsletter are not available on the website, and the email address that was given for ordering back issues came back as undeliverable.<sup>57</sup>

#### ***II.E. Zambia Association for Research and Development (ZARD)***

ZARD’s website, zard.org.zm, no longer appears to be working. One website, however, describes ZARD as active in community training, with a particular focus on HIV/AIDS, sexuality, and

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<sup>55</sup> Zambia AIDS Related TB Project,

[http://www.zambart.org/index.php?option=com\\_content&task=view&id=14&Itemid=54](http://www.zambart.org/index.php?option=com_content&task=view&id=14&Itemid=54).

<sup>56</sup> Doris Duke Charitable Foundation, Approximately \$44 Million Committed to Support Four Partnerships to Strengthen Health Systems Serving 3.5 Million People in Sub-Saharan Africa, available at

[http://www.ddcf.org/Global/doris\\_duke\\_files/download\\_files/090731PHITpressrelease1.pdf](http://www.ddcf.org/Global/doris_duke_files/download_files/090731PHITpressrelease1.pdf).

<sup>57</sup> The Zambia AIDSLaw Research and Advocacy Network, <http://www.zaran.org/index.html>.

human rights.<sup>58</sup>

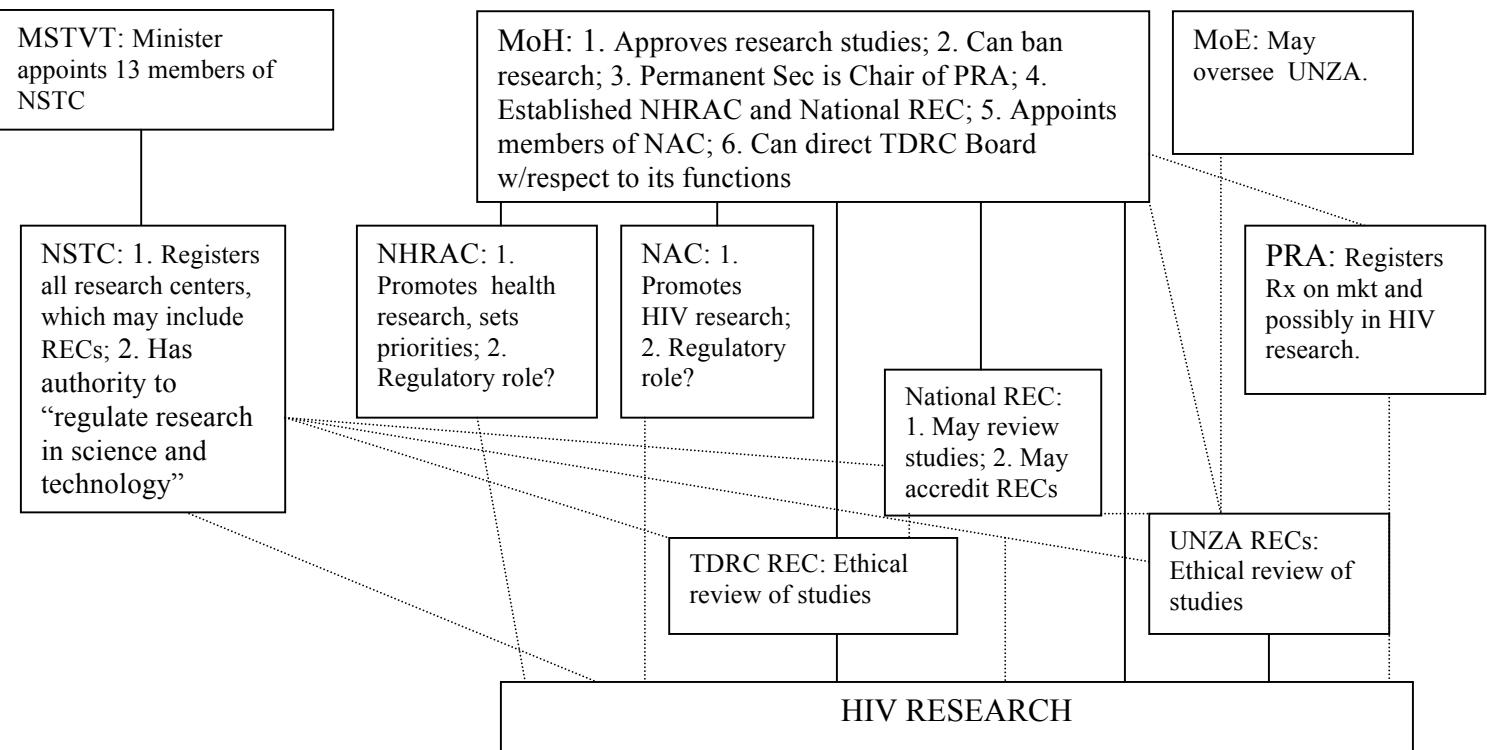
### **III. Conclusion**

It is clear from this desk review that significant gaps exist in Zambia's regulatory framework, gaps that could be clarified through interviews with key stakeholders. While it is advisable for Zambia to clarify these regulations, the Global Campaign for Microbicides should not force this issue on national actors or undertake interviews with key informants without support from a key governmental stakeholder. In meeting with these stakeholders to gauge support for such regulatory research, it is expected that this memorandum can frame stakeholder discussions, with these meetings and prospective interviews informing the Global Campaign for Microbicides' proposal to establish a presence in Zambia.

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<sup>58</sup> Zambia Association for Research and Development, Activities Report, <http://www.afard.org/allfichiers/zambia.pdf>.

## Appendix 1: Lines of authority among ministries, regulating statutory bodies, and RECs



### Key:

MSTVT: Ministry of Science, Technology and Vocational Training

MoH: Ministry of Health

MoE: Ministry of Education

NCST: National Council of Science and Technology

NHRAC: National Health Research Advisory Committee

NAC: National HIV/AIDS/STI/TB Council

PRA: Pharmaceutical Regulatory Authority

— : Clear line of authority

- - - : Line of authority uncertain

\* A line of authority can represent any one of the following relationships:

1. That the higher body established the lower body;
2. That the higher body has the power to appoint members within the lower body; or
3. That the higher body can regulate the lower body or direct how it functions.

Solid lines represent lines of authority that are fairly clearly established whereas broken lines represent lines of authority that may exist but that cannot be established by the sources available through this desk review. As the large number of broken lines suggests, substantially more information than is provided by this desk review is needed in order to understand how these various organizations relate to each other and how they work together to regulate HIV research. Moreover, even those relationships that are depicted by solid lines require more clarification. For example, even if it is clear that a higher body created a lower body or has some power to direct how the lower body functions, the degree to which the statutory bodies and the RECs function independently of the ministries is still frequently unclear.



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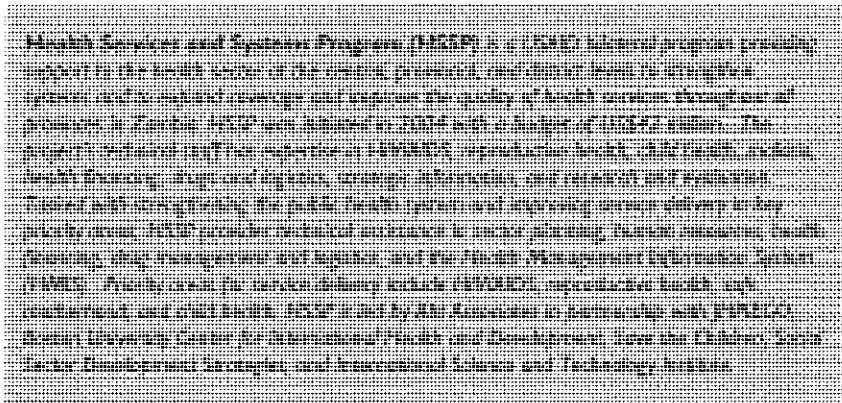


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This publication was written by Slavea Chankova and Sara Sulzbach and was reviewed by Elijah Sinyinza. It draws from several original reports developed by HSSP in collaboration with the Ministry of Health. Contributors to the reports include Anna Chirwa, Lastina Lwatula, Hilary Mwale, and Mwiche Ngulube-Horne



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# **STRENGTHENING HUMAN RESOURCES FOR HEALTH**

## **OCCASIONAL PAPER SERIES, NUMBER I**

### **DISCLAIMER**

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development (USAID) or the United States Government

# CONTENTS

<b>Acronyms.....</b>	<b>v</b>
<b>1. Introduction.....</b>	<b>1</b>
<b>2. Demographic and Health Indicators in Zambia.....</b>	<b>3</b>
2.1 The HIV/AIDS Epidemic in Zambia .....	3
<b>3. Overview of THE Zambian Health Sector .....</b>	<b>5</b>
3.1 Health Sector Reforms.....	5
3.2 Organization of Health Sector .....	5
<b>4. Human Resources for Health Challenges in Zambia.....</b>	<b>7</b>
4.1 Shortage of Health Workers .....	7
4.2 Attrition of Health Workers .....	9
<b>5. HSSP Efforts in HRH Planning, Management, and Training in Zambia .....</b>	<b>11</b>
5.1 Identification and Prioritization of HRH Problems.....	11
5.1.1 Situation Analysis: Assessment of the Scope and Scale of the HRH Crisis .....	11
5.1.2 Attrition of Health Personnel: Major Reasons and Potential Solutions .....	13
5.1.3 Education and Development of Staff.....	14
5.1.4 Management of HRH .....	14
5.2 Plan to Address Crisis .....	14
5.2.1 Assessment of Training Capacity to Meet the Challenge of HIV/AIDS .....	16
5.3 HRH Planning.....	18
5.4 HRH Management and Training.....	18
5.4.1 National In-Service Training Coordination System: Implementation Plan.....	18
5.4.2 National Training Guidelines for Health Professionals..	19

# I. INTRODUCTION

This is the first in a series of HSSP Occasional Papers highlighting the health system strengthening work of the project in Zambia. The focus of this paper is on human resources for health (HRH). The paper presents an overview of the current HRH situation in Zambia, provides comparisons with other countries in the region, and summarizes the work accomplished under the human resources component of HSSP in the project's first year of operation, namely:

- Identifying and analyzing priority HRH issues in Zambia;
- Developing solutions and presenting them to stakeholders; and
- Assisting the Ministry of Health (MOH) and Government of the Republic of Zambia (GRZ) in setting the HRH agenda.

The remainder of this paper is organized as follows: Section 2 provides a summary of basic demographic and health indicators in Zambia; Section 3 describes the organization and reforms of the health sector; Section 4 discusses the HRH challenges facing Zambia; Section 5 describes the work completed in 2004–2005 by HSSP under the HRH component of the project; Section 6 summarizes key issues in the HRH Strategic Plan 2006–2010; and Section 7 offers concluding remarks.

Appendix 3: Newspaper Articles on MoH Corruption Scandal

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## **RB's Ministry of Health Funding Frozen Amidst Corruption Scandals ...**

LUSAKA, 27 May 2009 (PlusNews) – Foreign aid for government health projects in Zambia, where most of the national health budget is donor-funded, was frozen last week after allegations of corruption.

The governments of the Netherlands and Sweden announced they had suspended aid after a whistleblower alerted Zambia's Anti-Corruption Commission [ACC] to the embezzlement of over US\$2 million from the health ministry by top government officials.

“The misuse of Dutch taxpayers’ money is unacceptable,” said Development Cooperation Minister Bert Koenders in a statement, adding that Dutch aid would be put on hold until the ACC and Zambia’s Auditor General released the findings from their investigations.

Donors fund 55 percent of the country’s health budget. The Dutch government, the largest supporter of Zambia’s tuberculosis (TB) programme, contributes about 13 million euros (US\$18 million) annually to rural healthcare, preventing malaria, TB and HIV, and training medical staff.



The Swedish International Development Cooperation Agency (SIDA) had earmarked 88 million kroner (about \$12 million) for Zambia’s health ministry before the scandal broke, but will now await the ACC’s findings before releasing the funds.

“SIDA will not accept any abuse of development money,” Charlotta Norrby, head of SIDA in Zambia, told local media.

Nkandu Luo, a former health minister, told IRIN/PlusNews that the suspension of funding could compromise the health of many Zambians: “This decision by donors is a crisis and it’s important [to] address the concerns of the donors … and restore support to the Ministry of Health.”

But government spokesperson Ronnie Shikapwasha said it was still not clear whether the money in question included donor funds. “Government is currently engaging donors on the revelations concerning the plunder of public resources in the Ministry of Health,” he told IRIN/PlusNews. “We want to ensure that operations go on smoothly and the poor people, for whom that aid is meant, do not suffer.”

He said the government was working hard to make certain that all the culprits were brought to book and the stolen money recovered, and urged the donor community to “help us to make our system more transparent … to ensure that this sad development does not repeat itself in the future.”

About 14 percent of Zambia’s 11.7 million people are HIV positive, and about half the estimated 300,000 people in need of antiretroviral (ARV) medication obtain it from government clinics and hospitals.

“HIV/AIDS is one of the biggest challenges that we have in the country, and the programmes will be affected – there is very little money coming from our government,” said Luo.

“The suspension of donor aid … will affect service delivery,” agreed Swebby Macha, president of the Zambia Medical Association. “Especially in the areas of drug supply and equipment, preventive programmes of HIV/AIDS, malaria, TB, and the rural retention scheme for our health workers. As things stand … the government will have to run the health sector with 45 percent funding.”

Shikapwasha said it was too soon to say what impact the suspension of donor funding would have on the health sector, but Georgina Mutila, an HIV-positive widow in the capital, Lusaka, said she was “very much afraid” that the supply of free ARV and TB drugs would be affected. “Our friends who have money might afford to buy ARVs, but for some of us that will be a problem.”

President Rupiah Banda, who was voted into office in October 2008 after the death of his predecessor, Levy Mwanawasa, has repeatedly been accused of being soft on corruption.



## Zambia: 23 Health Workers Detained

Sylvia Mweetwa

1 June 2009

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Ministry of Health employees linked to the theft of about K27 billion from the Government have been detained in various police stations in Lusaka to assist with investigations.

The investigators had also agreed with commercial banks to freeze bank accounts of all the 23 suspects as the embezzlement probe continued.

Police spokesperson, Bonnie Kapeso said in an interview that 23 officers were detained for interrogation but were yet to be charged.

Mr Kapeso said investigations were progressing well and the detained suspects were soon likely to be charged with offences ranging from forgery to obtaining money by false pretences.

"We have detained 23 officers from the ministry of Health who are assisting us with investigations and the number is likely to increase following the addition of more names to the list of suspects," he said.

Those detained were picked up between Thursday and Friday and were taken to different stations including Lusaka Central, Emmasdale, Kabwata and Bennie Mwiinga for interrogations.

Mr Kapeso assured that the probe team, comprising the police, Drug Enforcement Commission (DEC) and Anti-Corruption Commission (ACC), was committed to conducting a thorough probe and ensure that those involved faced the law.

Other sources close to the investigation, who spoke on condition of anonymity, revealed that the bank accounts of the 23 officers under interrogations had been frozen, pending investigations.

"The investigators met the heads of commercial banks last Tuesday and it was agreed that the suspects would only be allowed to draw their salaries this month while the rest of the money would remain frozen," a source said.

The source said the investigations had been extended to more suspects who previously worked for the ministry of Health as contract workers and a few of them were on the run.

There was anxiety at some police stations after relatives who had gone to check on those detained found that the suspects had been moved to other stations.

On Saturday, police picked up former ministry of Health permanent secretary, Simon Miti who was questioned for over six hours on the same matter.

Dr Miti becomes the first senior public service officer to be picked up since the probe into alleged misuse of public funds at the ministry started.

Secretary to the Cabinet, Joshua Kanganja announced on Friday that the number of those implicated in the matter had shot up to 32 from the initial 23 Government workers and all had since been sent on forced leave to pave way for investigations.

President Rupiah Banda recently called for a thorough probe into the ministry of Health scandal and punishment of all involved.

Sweden and the Netherlands have withheld US\$33 million aid to the ministry of Health because of the scandal, leaving the Government with a monthly financing gap of K24 billion and placing health service delivery at risk.

## **Appendix 4: Newspaper Article on MoH's Banning of Microbicide Trials**

### **Zambia debate on HIV gel rages on**

By Meluse Kapata moyo 03-02-2010

Lusaka - Controversy surrounding the Microbicide Gel clinical trials which left 46 women infected with the HIV virus in the Southern part of Zambia has continued with researchers still insisting they are not to blame.

The Microbicide Development Programme (MDP) which undertook the research involving 1,340 women to ascertain whether the PRO 2000 gel could prevent HIV transmission has come under fire for allegedly using illiterate and poverty stricken women to conduct the research.

A number of institutions have also condemned the organisations 'no compensation' policy for those now infected with the disease.

The Human Rights Commission (HRC) has announced it would probe whether or not MDP violated any rights of its participants.

But MDP principle investigator, Maureen Chisembele told Southern Times, "HIV and AIDS infected women are found everywhere, both in rural and urban areas. As for the 46 infection, our organization administered the gel on HIV negative women who were left to go and have sex with their partners whether married or not. Condoms were also given to the participants as we were not sure the gel would work."

Therefore, the clinical gel is not to blame for those women contracting HIV." Zambia's HIV prevalence rate recorded in 2007 currently stands at 14.3 percent from 16 percent in 2002. But despite the drop, the country has continued to record new infections attributed to a number of high risk behaviours.

Dr Chisembele explained that the research which had also been conducted in Uganda, Europe, Asia and South Africa to determine whether PRO 2000 molecules could trap the HIV virus from entering the vaginal wall, had unfortunately proven that the gel cannot prevent infection.

According to a bidding copy provided by MDP and signed by the participants, it was clearly stated that there was doubt the gel would prevent infection.

However, there was no clause that stipulated that participants would be compensated should they be infected with HIV.

"No monetary compensation will be given to the women because the undertaking clearly outlined that administering of PRO 2000 was just a clinical trial," said Dr Chisembele.

Nonetheless, MDP is offering care and counseling to the infected women.

And despite calls for the trials to be investigated, the University of Zambia Biomedical Research Ethics Committee (UNZAREC) has said MDP was ethical in all its dealings.

Acting Chairperson Dr James Munthali stated the committee had been involved with the

MDP trial dating back to December 2004 when an application was made to conduct phase 111 of randomised double blind placebo-controlled trial. It was to evaluate the safety and efficacy of the vaginal microbicide gel PRO 2000 for reducing the risk of vaginally acquired HIV infection in women.

He said the research proposal underwent rigorous review in accordance with the Standard Operating Procedures of UNZAREC to ensure the dignity, rights, safety and well-being of the participants were safeguarded.

The study which was approved to commence on April 5, 2005 and was completed on August 2009, followed through well documented procedures and UNZAREC was briefed about the findings on December 10, 2009 before the results were disseminated.

"There is no cause to believe that the 46 women out of the 1,332 involved in the Mazabuka microbicide were infected as a result of their participation." US Agency International Development (UNZAREC) estimates that 33 million people worldwide are infected with HIV, and in Sub-Saharan Africa, almost 60 percent of these are women.

In its recent report to congress 'Strategic Plan for Microbicide Research and Development: Current Initiatives and Next-Generation Leads,' strategies for preventing HIV infection, including delay of sexual debut, partner reduction, use of condoms, and male circumcision, are not options that can be successfully negotiated by many women in developing countries with concentrated or general HIV epidemics.

The report stated that, though Microbicides are an entirely new class of HIV prevention products that, when available, will provide women with an effective barrier to sexually transmitted and possibly other STIs. "The research and development of an effective microbicide, therefore, will, help fill the enormous need for a new prevention option for women and will complement other existing or new prevention approaches."

## GOVERNMENT OF ZAMBIA

**ACT**

No. 10 of 2002

Date of Assent: 31st December, 2002

**An Act to establish the National HIV/AIDS/STI/TB Council, define its functions and provide for its composition; to constitute the Secretariat of the Council, define its functions and provide for its composition; and to provide for matters connected with or incidental to the foregoing.**

[ 31st December, 2002

ENACTED by the Parliament of Zambia.

Enactment

**PART 1**  
**PRELIMINARY**

1. This Act may be cited as the National HIV/AIDS/STI/TB Council Act, 2002 and shall come into operation on such date as the Minister may, by statutory instrument, appoint.
2. In this Act, unless the context otherwise requires—
  - “ appointed date ” means the date appointed by the Minister under section *one*;
  - “ AIDS ” means Acquired Immune Deficiency Syndrome;
  - “ committee ” means a committee of the Council constituted under section *nine*;
  - “ Council ” means the National HIV/AIDS/STI/TB Council established under section *three*;
  - “ Director-General ” means the person appointed Director-General of the Council under section *fourteen*;
  - “ HIV ” means Human Immune Deficiency Virus;
  - “ Member ” means a person appointed member of the Council under section *five*;
  - “ STI ” means Sexually Transmitted Infections;
  - “ TB ” means tuberculosis;

Short title  
and  
commencement

Interpretation

**96 No. 10 of 2002]**      *National HIV/AIDS/STI/TB  
Council*

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“ secretariat ” means the Secretariat of the Council constituted under section *thirteen*; and

Cap. 287      “ traditional leader ” means a person appointed Chief under the Chiefs Act.

## PART II

### THE NATIONAL HIV/AIDS /STI /TB COUNCIL

**Establishment of Council**      3. There is hereby established the National HIV/AIDS/STI/TB Council which shall be a body corporate with perpetual succession and a common seal, capable of suing and being sued in its corporate name, and with power, subject to this Act, to do all such acts and things as a body corporate may by law do or perform.

**Functions of Council**      4. (1) The functions of the Council shall be to coordinate and support the development, monitoring and evaluation of the multi-sectoral national response for the prevention and combating of the spread of HIV, AIDS, STI and TB in order to reduce the personal, social and economic impacts of HIV, AIDS, STI and TB.

(2) Without prejudice to the generality of subsection (1) the functions of the Council shall be to—

- (a) support the development and coordination of policies, plans and strategies for the prevention and combating of HIV, AIDS, STI and TB for health and other institutions concerned with the prevention and combating of HIV, AIDS, STI and TB;
- (b) advise the Government, health institutions and other organisations on the policies, strategies and plans to prevent and combat HIV, AIDS, STI and TB;
- (c) ensure the provision and dissemination of information and education on HIV, AIDS, STI and TB;
- (d) develop a national HIV, AIDS, STI and TB research agenda and strategic plan which shall include the quest for a cure for HIV, AIDS as one of the research priorities;
- (e) support programmes relating to prevention, care, and treatment of HIV, AIDS, STI and TB;
- (f) mobilise resources to promote and support identified priority interventions including research in areas related to HIV, AIDS, STI and TB;
- (g) provide technical support and guidelines to health and other institutions involved in the—

- (i) prevention and treatment of HIV, AIDS, STI and TB; and
- (ii) care and support of persons infected with or affected by HIV, AIDS, STI and TB;
- (h) collaborate with other research institutions in relation to HIV, AIDS, STI and TB; and
- (i) undertake such other activities as are conducive or incidental to its functions under this Act.

**5. (1)** The Council shall consist of the following members appointed by the Minister: Composition of Council

- (a) Permanent Secretaries in the Ministries responsible for—
  - (i) community development and social welfare;
  - (ii) education;
  - (iii) health;
  - (iv) sport, youth and child development;
- (b) a representative nominated by each of the following organisations or bodies, as the case may be:
  - (i) Network of Zambian People Living with HIV and AIDS;
  - (ii) Zambia Network of Non-governmental Organisations on HIV and AIDS;
  - (iii) Forum for Youth Organisations;
  - (iv) religious organisations;
  - (v) General Nursing Council;
  - (vi) Medical Council of Zambia;
- (c) a representative of the Attorney-General;
- (d) a representative of the media sector;
- (e) a representative of a traditional healers' association; and
- (f) two persons from amongst members of the public.

**98 No. 10 of 2002]*****National HIV/AIDS/STI/TR  
Council***

(2) In appointing or nominating persons to the Council the nominating or appointing authority shall take into account the need for gender balance, age and geographical representation on the Council.

(3) The Chairperson shall be appointed by the Minister from amongst the members referred to in subsection (1) and the Vice Chairperson shall be elected by the members from amongst themselves.

**Tenure or  
office of  
members**

6. (1) A member referred to in subsection (1) of section *five* shall hold office for a period of three years from the date of appointment and shall be eligible for reappointment for a further period of three years.

(2) A member referred to in subsection (1) may resign upon giving one month's notice in writing to the organisation which nominated the member and to the Minister.

(3) The office of a member shall become vacant—

- (a) upon the death of a member;
- (b) if the member is absent without reasonable excuse from three consecutive meetings of the Council of which the member has had notice;
- (c) on member ceasing to hold office by virtue of which the member was appointed;
- (d) if the member resigns under subsection (2);
- (e) if the member is convicted of a criminal offence and sentenced to imprisonment for a period exceeding six months; or
- (f) if a member is declared bankrupt.

**Filling of  
casual  
vacancy**

7. Whenever the office of a member becomes vacant before the expiry of the term of office, the Minister may appoint another member in place of the member who vacates the office; but that member shall hold office only for the unexpired part of the term.

**National HIV/AIDS/STI/TB  
Council** [No. 10 of 2002 99]

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**8.** (1) Subject to the other provisions of this Act, the Council may regulate its own procedure.

Proceedings  
of Council

(2) The Council shall meet for the transaction of business, at least once in every three months at such places and at times as the Chairperson may decide.

(3) Upon giving notice of not less than fourteen days, a meeting of the Council may be called by the Chairperson and shall be called if not less than one third of the members so request in writing:

Provided that if the urgency of any particular matter does not permit the giving of such notice, a special meeting may be called upon giving a shorter notice.

(4) The quorum at any meeting of the Council shall be eight members.

(5) There shall preside at any meeting of the Council—

(a) the Chairperson;

(b) in the absence of the Chairperson, the Vice –Chairperson;

or

(c) in the absence of the Chairperson, and Vice-Chairperson, such member as the members present may elect from amongst themselves for the purpose of that meeting.

(6) A decision of the Council on any question shall be by a majority of the members present and voting at the meeting and, in the event of an equality of votes, the person presiding at the meeting shall have a casting vote in addition to that person's deliberative vote.

(7) Where a member referred to in paragraphs (c), (d) and (e) of subsection (1) of section five is for any reasonable cause unable to attend any meeting of the Council, the member may, in writing, nominate another senior officer from the same organisation to attend such meeting and such person shall be deemed to be a member for the purpose of such meeting.

(8) The Council may invite any person whose presence is in its opinion desirable to attend and to participate in the deliberations of a meeting of the Council, but such person shall have no vote.

**100 No. 10 of 2002]**      *National HIV/AIDS/STI/TB  
Council*

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(9) The validity of any proceedings, act or decision of the Council shall not be affected by any vacancy in the membership of the Council or by any defect in the appointment of any member or by reason that any person not entitled so to do, took part in the proceedings.

(10) The Council shall cause minutes to be kept of the proceedings of every meeting of the Council and every meeting of any committee established by the Council.

**Committees of Council**

9. (1) The Council may, for the purpose of performing its functions under this Act establish committees and delegate to any such committee any of its functions as it thinks fit.

(2) The Council may appoint as members of a committee established under subsection (1) persons who are or are not members of the Council and such persons shall hold office for such periods as the Council may determine.

(3) A committee of the Council may invite any person whose presence is in its opinion desirable, to attend and to participate in the deliberations of a meeting of the committee, but such person shall have no vote.

(4) Subject to any specific or general direction of the Council, any committee established under subsection (1) may regulate its own procedure.

**Allowances of members**

10. The members and members of committees of the Council shall be paid such allowances as the Council may with the approval of the Minister, determine.

**Disclosure of interest**

11. (1) If a member or person is present at a meeting of the Council or any committee of the Council at which any matter is the subject of consideration and in which matter the member or person or member's spouse or person's spouse is directly or indirectly interested in a private capacity, the member or person shall, as soon as is practicable after the commencement of the meeting, disclose such interest and shall not unless the Council or committee otherwise directs, take part in any consideration or discussion of, or vote on, any question touching such matter.

(2) A disclosure of interest made under this section shall be recorded in the minutes of the meeting at which it is made.

*National HIV/AIDS/STI/TB  
Council*

[No. 10 of 2002 101]

**12.** (1) A person shall not, without the consent in writing given by or on behalf of the Council, publish or disclose to any unauthorised person, other than in the course of duties, the contents of any documents, communication or information whatsoever, which relates to, and which has come to the person's knowledge in the course of that person's duties under this Act.

Prohibition of publication or disclosure of information to unauthorised person

(2) Any person who contravenes the provision of subsection (1) commits an offence and is liable, upon conviction, to a fine not exceeding ten thousand penalty units or to imprisonment for a term not exceeding three months, or to both.

(3) If any person having any information which to that person's knowledge has been published or disclosed in contravention of subsection (1), unlawfully, publishes or communicates any such information to any other person, that person commits an offence and is liable, upon conviction, to a fine not exceeding ten thousand penalty units or to imprisonment for a term not exceeding three months or to both.

**PART III**  
**SECRETARIAT**

**13.** (1) There is hereby constituted the Secretariat of the Council which shall have the function of implementing Council decisions including the development of technical guidelines for the coordination of the multi sectoral-national response for the—

Constitution of Secretariat and definition of its functions

- (a) prevention of HIV, AIDS, STI and TB and the treatment and care of persons infected with HIV, AIDS, STI and TB; and;
- (b) care and support of persons infected with or affected by HIV, AIDS, STI and TB.

(2) Without prejudice to the generality of subsection (1) the Secretariat shall—

- (a) ensure accessibility of HIV, AIDS, STI and TB information to the public throughout the country;
- (b) assist in the development of guidelines for the screening of blood and blood related products in accordance with international standards in order to prevent the spread of HIV, AIDS, STI and TB;
- (c) in consultation with health institutions and other stakeholders, develop guidelines for community based care for combating of HIV, AIDS, STI and TB and develop mechanisms for linkages between community based care and other health care systems;

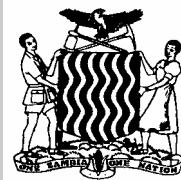
**102 No. 10 of 2002]** *National HIV/AIDS/STI/TB Council*

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- (d) in consultation with other institutions and stakeholders involved in the fight against HIV, AIDS, STI and TB, develop strategies for appropriate interventions targeted at the most vulnerable populations;
- (e) develop mechanisms and guidelines to ensure speedy, effective and direct delivery of resources and materials to affected communities and groups;
- (f) develop guidelines for—
  - (i) testing in respect of HIV, AIDS, STI and TB; and
  - (ii) counselling for persons infected with or affected by HIV, AIDS, STI and TB;
- (g) develop a data bank for HIV, AIDS, STI and TB;
- (h) develop guidelines for securing the human rights of persons with HIV and AIDS;
- (i) strengthen the collaboration between traditional health practitioners and conventional practitioners dealing with HIV and AIDS;
- (j) facilitate the formation of support groups to combat the stigmatisation, discrimination and denial in respect of HIV and AIDS;
- (k) perform any other function assigned to it by the Council.

Director-General,  
Secretary and  
other staff of  
Secretariat

- 14.** (1) Subject to subsection (2), the Council shall, appoint the Director-General of the Council who shall be the Chief Executive Officer of the Council and the Secretariat and who shall, subject to the control and direction of the Council, be responsible for the implementation of the decisions of the Council.
- (2) The terms and conditions of service of the Director-General shall be determined by the Council, with the approval of the Minister.
- (3) The Director-General shall be the Secretary to the Council.
- (4) The Council may appoint on such terms and conditions as it may determine, such other staff of the Secretariat as it considers necessary for the performance of its functions under this Act.
- (5) The provisions of section *twelve* shall apply with necessary modifications to the staff of the Secretariat.



**REPUBLIC OF ZAMBIA**

**MINISTRY OF HEALTH**

**NATIONAL HIV/AIDS/STI/TB POLICY**

**LUSAKA  
JANUARY 2005**

## TABLE OF CONTENTS

<b>FOREWORD.....</b>	<b>IV</b>
<b>ACKNOWLEDGEMENT.....</b>	<b>V</b>
<b>WORKING DEFINITIONS .....</b>	<b>VI</b>
<b>ABBREVIATIONS/ACRONYMS .....</b>	<b>VIII</b>
<b>CHAPTER 1.....</b>	<b>1</b>
<b>1.0 BACKGROUND AND INTRODUCTION.....</b>	<b>1</b>
<b>CHAPTER 2.....</b>	<b>3</b>
<b>2.0. SITUATION ANALYSIS.....</b>	<b>3</b>
2.1. GLOBAL CONTEXT.....	3
2.2. NATIONAL CONTEXT .....	3
2.3. TRANSMISSION OF HIV, STIs AND TB .....	4
2.4. IMPACT OF HIV/AIDS/STI/TB .....	6
2.5 PLANS AND PROGRAMMES .....	8
2.6. PREVENTION AND CONTROL .....	8
2.7. TREATMENT, CARE AND SUPPORT .....	11
2.8. HUMAN RIGHTS AND HIV/AIDS .....	13
2.9. HUMAN RESOURCE DEVELOPMENT AND TRAINING .....	14
2.10. RESEARCH AND DEVELOPMENT .....	15
2.11. INSTITUTIONAL FRAMEWORK .....	15
2.13 RESOURCE MOBILIZATION .....	16
2.14. MONITORING AND EVALUATION .....	16
<b>CHAPTER 3.....</b>	<b>17</b>
<b>3.0. VISION, RATIONALE AND GUIDING PRINCIPLES .....</b>	<b>17</b>
3.1. VISION AND GOAL .....	17
3.2. RATIONALE .....	17
3. 3. GUIDING PRINCIPLES.....	17
<b>CHAPTER 4.....</b>	<b>19</b>
<b>4.0. AIMS AND OBJECTIVES .....</b>	<b>19</b>
4.1 MAIN OBJECTIVE .....	19
4.2 BROAD OBJECTIVES .....	19
<b>CHAPTER 5.....</b>	<b>21</b>
<b>5.0 . GENERAL AND CROSS-CUTTING POLICY OBJECTIVES AND MEASURES .</b>	<b>21</b>
5.1. DOMESTICATION OF INTERNATIONAL DECLARATIONS ON HIV/AIDS .....	21
5.2. MULTISECTORALISM.....	21
5.3. INCREASED ADVOCACY, SOCIAL MOBILISATION AND COMMUNICATION .....	22
5.4. ENHANCED EQUITY AND GENDER SENSITIVITY .....	22
5.5. INCORPORATION OF FAITH-BASED ORGANISATIONS .....	22
5.6. INVOLVEMENT OF TRADITIONAL LEADERSHIP AND STRUCTURES .....	23

5.7. EMPLOYMENT AND THE WORKPLACE (PRIVATE, PUBLIC ETC) .....	23
5.8. PROTECTION OF HUMAN RIGHTS AND PREVENTION OF STIGMA AND DISCRIMINATION	24
5.9. PROTECTION OF RIGHTS OF CHILDREN AND YOUNG PEOPLE .....	24
5.10. PROMOTION OF HIV/AIDS RELEVANT RESEARCH & DEVELOPMENT (R & D) .....	25
5.11. CREATING A SUPPORTIVE ENVIRONMENT .....	26
<b>CHAPTER 6.....</b>	<b>27</b>
<b>6.0. PREVENTION AND CONTROL POLICY MEASURES .....</b>	<b>27</b>
6.1. IMPROVED AND EXPANDED IEC .....	27
6.2. BUILDING LIFE-SAVING SKILLS .....	27
6.3. STRENGTHENING AND EXPANSION OF VOLUNTARY COUNSELLING AND TESTING (VCT).	28
6.4. IMPROVED AVAILABILITY OF CONDOMS AND OTHER BARRIER METHODS .....	28
6.5. PROVISION OF SAFE AND SECURE BLOOD TRANSFUSION SERVICES .....	29
6.6. PREVENTION AND CONTROL OF SEXUALLY TRANSMITTED INFECTIONS .....	29
6.7. PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT) OF HIV .....	29
<b>CHAPTER 7.....</b>	<b>31</b>
<b>7.0. TREATMENT, CARE AND SUPPORT POLICY MEASURES .....</b>	<b>31</b>
7. 1. PREVENTION AND CONTROL OF TUBERCULOSIS .....	31
7.2 TREATMENT OF OTHER OPPORTUNISTIC INFECTIONS .....	31
7.3. ACCESS TO ANTI-RETROVIRAL (ARV) DRUGS .....	32
7.4. UTILISATION OF ALTERNATIVE OR/AND TRADITIONAL MEDICINES .....	32
7.5. PROMOTION OF APPROPRIATE NUTRITION .....	33
7.6. SUPPORT TO THE INFECTED AND AFFECTED .....	33
7.7. ORPHANS AND VULNERABLE CHILDREN .....	34
7.8. SUPPORT TO HIGH RISK AND VULNERABLE GROUPS .....	34
( DISABLED GROUPS, COMMERCIAL SEX WORKERS, PRISONERS, REFUGEES AND LONG DISTANCE	
.....	34
TRUCK DRIVERS) .....	34
<b>CHAPTER 8.....</b>	<b>36</b>
<b>8.0. POLICY MEASURES FOR INSTITUTIONAL ARRANGEMENTS.....</b>	<b>36</b>
8.1. STRENGTHENING THE INSTITUTIONAL FRAMEWORK .....	36
8.2. HUMAN RESOURCE DEVELOPMENT AND TRAINING .....	36
8.3. STRENGTHENING THE LEGAL FRAMEWORK .....	36
8.4. IMPROVED RESOURCE MOBILISATION.....	37
8.5. IMPROVED PROGRAMME MONITORING AND EVALUATION.....	37
<b>CHAPTER 9.....</b>	<b>39</b>
<b>9.0. SECTORAL RESPONSIBILITIES.....</b>	<b>39</b>
9.1. FINANCIAL SECTOR .....	39
9.3. EDUCATION SECTOR .....	40
9.4. HEALTH SECTOR .....	40
9.5. AGRICULTURAL SECTOR .....	40
9.6. SPORT, YOUTH AND CHILD DEVELOPMENT SECTOR .....	41

9.7. COMMUNICATIONS AND TRANSPORT SECTOR .....	41
9.8. TOURISM SECTOR.....	42
9.9. INFORMATION AND BROADCASTING SECTOR .....	42
9.10. GOVERNANCE AND JUSTICE SECTOR .....	43
9.11. DEFENCE AND SECURITY SECTOR .....	43
9.12 HOME AFFAIRS .....	44
9.13 PRIVATE, CONSTRUCTION AND INDUSTRY SECTOR .....	44
9.14. NATIONAL HIV/AIDS/STI/TB COUNCIL .....	44
<b>CHAPTER 10.....</b>	<b>46</b>
<b>10.0. IMPLEMENTATION ARRANGEMENTS .....</b>	<b>46</b>
10.1. OPERATIONALISATION OF THE POLICY .....	46
10.2. RESPONSIBILITY FOR POLICY IMPLEMENTATION .....	46
10.3. MONITORING AND EVALUATION .....	46
10.4. RESOURCE MOBILISATION .....	46

## **FOREWORD**

In order to demonstrate its highest political commitment to the fight against HIV, AIDS, STIs, TB and other opportunistic infections and to militate against the harmful socio-economic impact that communities have been subjected to, the Government in 1999 established the National HIV/AIDS/STD/ TB Council (NAC) through an Act of Parliament. The chief mandate of the Council is to coordinate national responses to the HIV/AIDS/STI/TB pandemic. Policy interventions against HIV/AIDS/STI/TB have, however, been undertaken in an environment devoid of policy direction and guidance. As might be expected, the lack of a national policy has resulted in undue duplication of effort and waste of scarce health resources. This policy, therefore, is expected to provide the requisite framework for informing and guiding various stakeholders in the quest to contribute to the fight against HIV, AIDS, STI, TB and other opportunistic infections.

The individual and collective actions against HIV/AIDS/STI/TB will be guided by the guiding principles in this policy and shall be based on the “Three Ones” approach (i.e. one national strategic plan, one national coordinating body and one monitoring and evaluation plan)

The task ahead is to ensure that the policy measures are disseminated widely and translated into implementable strategies and programmes by the various stakeholders, which will have the required impact countrywide.

The full attainment of the vision depends on the commitment of every person and institution in the country. I, therefore, appeal for your full commitment to the implementation of this policy.

I wish, on behalf of the Cabinet Committee of Ministers on HIV/AIDS, to pledge the Government's determination to run the full distance against HIV, AIDS, STI, TB and other opportunistic infections. The pledge is mammoth. I'm, however, convinced that it is achievable if we all get resolved and committed to putting an end to the suffering that these diseases continue to inflict on our people and communities.

Brig.Gen. (Rtd) Dr. B. Chituwo, M.P.  
MINISTER OF HEALTH

## **ACKNOWLEDGEMENT**

The National HIV/AIDS Policy has been developed through a broad based, participatory and consultative process involving all major stakeholders.

Special thanks are extended to individuals and representatives of various organisations and communities who participated in the national, provincial and district consultative meetings for their invaluable contributions.

Acknowledgements also go to the various stakeholders and the officials of the Inter-ministerial committee for the submissions made on the various issues of this document.

I would further like to acknowledge the accurate and timely advice provided by the Policy Analysis and Coordination Division of Cabinet Office and the Directorate of Health Policy for Coordinating the drafting of the Policy.

Dr. S.K. Miti  
Permanent Secretary  
Ministry of Health

## WORKING DEFINITIONS

Acquired Immune Deficiency Syndrome	-	Infections that manifest as disease in a person with immunodeficiency.
Commercial Sex Work	-	Trading in sex for money or material gain.
Counseling	-	An interpersonal interaction between a client and a Counselor.
Discrimination	-	Unfairness to people with HIV/AIDS/STI/TB.
Dry Sex	-	Having sex where the vagina has been dried by the use of drying agents such as herbs and chemicals.
Heterosexual	-	Sex between male and female.
Human Immunodeficiency Virus	-	It is a retrovirus that damages the human immune system permitting opportunistic infections to eventually cause fatal diseases.
Human Rights	-	Fundamental Freedoms and Basic Human Rights that every person is entitled to in the Constitution of Zambia and International Human Rights to which Zambia is a party.
Multidisciplinary	-	An approach actively and simultaneously involving different disciplines.
Multi-Sectoral	-	An approach that actively involves different Sectors.
Orphan	-	A child whose parents are dead.
Opportunistic infections	-	Infections that are harmful to people whose immune - system has been made weak by HIV.
Prevalence rate	-	Number of reported HIV / AIDS / STI / TB cases at a particular time or place.
Prisoner	-	A person who has been sentenced to prison.
Sexually Transmitted Infections	-	Any infection transmitted through sexual contact.
Silence	-	Inability to discuss or talk openly on a given disease.

Stigma	-	Shame, Disgrace or Dishonor as a result of someone Having HIV/AIDS /STI/ TB.
Tuberculosis		A chronic disease caused by the mycobacterium bacilli.
Unprotected sex	-	Having sexual intercourse without any barrier (condom) between two partners.
Willful transmission	-	Deliberately transmitting HIV / AIDS / STI / TB by any person knowing full well that it is wrong.

## ABBREVIATIONS/ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ARV	Anti-Retroviral
CBO	Community Based Organisation
CEDAW	Convention on the Elimination of all forms of Discrimination Against Women
CSO	Central Statistics Office
CSW	Commercial Sex Worker
CP	Cooperating Partners
DHS	Demographic and Health Survey
FBO	Faith Based Organisation
FFP	Focal Point Person
GRZ	Government of the Republic of Zambia
HAART	Highly Active Anti-Retroviral Therapy
HBC	Home Based Care
HIV	Human Immunodeficiency Virus
IEC	Information, Education and Communication
IGA	Income Generating Activity
IMS	Information and Management System
MACO	Ministry of Agriculture and Cooperatives
MCDSS	Ministry of Community Development and Social Services
M & E	Monitoring and Evaluation
MoH	Ministry of Health
MTCT	Mother to Child Transmission
NAC	National HIV/AIDS/STI/TB Council
NGO	Non-Governmental Organisation
NZP+	Network of Zambian People Living with HIV/AIDS
NBTS	National Blood Transfusion Service
OVC	Orphaned and Vulnerable Children
PAGE	Programme for the Advancement of Girl's Education
PWAS	Public Welfare Assistance Scheme
PMTCT	Prevention of Mother to Child Transmission
PFP	Provincial Focal Point
PLWHA	People Living with HIV and AIDS
SBS	Sexual Behaviour Survey
STI	Sexually Transmitted Infection
TB	Tuberculosis
UNAIDS	United Nations Programme on HIV/AIDS
VCT	Voluntary Counselling and Testing
WHO	World Health Organisation

## **CHAPTER 1**

### **1.0 BACKGROUND AND INTRODUCTION**

HIV/AIDS has for the past two decades continued to spread across all continents killing millions of adults in their prime, disrupting and impoverishing families and turning millions of children into orphans. Because it affects the most productive segments of national populations, the pandemic has tremendously reduced work forces and reversed many years of economic and social progress and has, in some cases, posed a serious threat to political stability.

According to the WHO/UNAIDS Report, in 2001 there were a total of 40 million people of all sexes and ages living with HIV/AIDS worldwide. Nearly half of all infected people are said to be in Sub-Saharan Africa. The advent of the HIV/AIDS pandemic has caused a reemergence of TB epidemics. In 1995 there were 9 million cases of TB with 3 million deaths. Developing countries account for 95 per cent and 98 per cent of TB cases and TB deaths, respectively. The majority of these are in Sub-Saharan Africa.

In Zambia, HIV/AIDS has also become increasingly wide spread with an estimated adult HIV prevalence of 16 per cent. The peak ages for HIV among females is 25 to 34 years while that for males is 35 to 39 years. Young women aged 15 to 19 are five times more likely to be infected compared to males in the same age group. It is also estimated that 25 per cent of pregnant women are HIV positive and that approximately 40 per cent of babies born to HIV- positive mothers are infected with the HIV virus.

The average Tuberculosis case rate between 1964 and 1984 remained constant at 100 per 100,000 populations. Following the advent of the HIV/AIDS epidemic in the mid-1980s, the case rate increased nearly five-fold to over 500 per 100,000 population in 1996. As a co-epidemic, TB is one of the most serious public health problems that have been triggered by the HIV/AIDS epidemic. There are now in excess of 40, 000 new TB cases reported every year. This figure is expected to rise by 10 per cent annually in the next few years. The Tuberculosis co-infection has also resulted in an increase in the mortality of patients on TB treatment by over 15 per cent.

Chances of transmission of HIV during unprotected sex rises dramatically if either partner is infected with another sexually transmitted infection (STI) such as syphilis or gonorrhoea. These infections form ulcers and sores that facilitate the transfer of the virus. STIs, in fact, constitute one of the major public health problems in Zambia. They account for 10 per cent of all documented outpatient attendances in public health facilities. More than 50 per cent of persons with a history of STI are infected with HIV.

Despite this depressing picture, there are some positive trends. The prevalence of HIV infection in 15-19 year-old youths had dropped over most of the country between 1993 and 1998. At the same time the overall prevalence rate in the whole population now appears to be stable and is not increasing. Consequently, although the current burden

of infection will continue to negatively impact Zambia for many years, it is hopeful that the tide may further be reversed.

In the mean time, all sectors of the Zambian society continue to feel the negative impact of HIV/AIDS/STI/TB. In recognition of this situation and the need to involve all stakeholders and partners in the fight against the epidemic, the Government has adopted a multi-sectoral approach. It is anticipated that measures contained in this Policy will help in arresting the rapid spread of HIV infections. The multi-dimensional strategy against HIV/AIDS places emphasis on building strategic partnerships at all levels and will require effective co-ordination of human, material and financial resources. It is expected that this policy document will provide the requisite environment for achieving this requirement.

The Policy provides the framework for addressing the HIV/AIDS/STI/TB situation in Zambia, outlines the causes and factors that perpetuate transmissions, including the debilitating effect on the Zambian population. It also outlines the response and impact mitigation interventions that are already in place, while also stating the vision, measures, institutional and legal frameworks necessary for its implementation.

## **CHAPTER 2**

### **2.0. SITUATION ANALYSIS**

#### **2.1. Global Context**

The Human Immunodeficiency Virus and the Acquired Immunodeficiency Syndrome have for the past two decades continued to spread across all continents killing millions of adults at their prime, disrupting and impoverishing families, turning millions of children into orphans, weakening the workforce thereby threatening the social and economic fabric of communities as well as political stability of nations.

The World Health Report 2003 puts HIV/AIDS as the leading cause of death in adults aged 15-59 years killing almost 5000 men and women in this age group, and almost 1000 of their children every 24hours in sub-Saharan Africa.

In Sub-Saharan Africa, 25.3 million people were living with HIV/AIDS. Of these 16.4 million have died. The biggest tragedy is the growing number of orphans estimated at 13.2 million worldwide of which 12.1million are in Africa.

The advent of HIV/AIDS has caused a re-emergence of TB epidemics throughout Southern Africa. As many as two-thirds of TB patients may be HIV positive.

#### **2.2. National Context**

The population of Zambia now stands at 10.3 million people with an annual growth rate of 2.9 per cent (Census 2000). More than 50 per cent of the population is less than twenty years of age.

Currently 16% per cent of the adult population aged 15 to 49 are infected with HIV. The peak ages for HIV among females is 25 to 34 years while that for males is 35 to 39 years. Young women aged 15 to 19 are five times more likely to be infected compared to males in the same age group. It is estimated that 25 per cent of pregnant women are HIV positive. Approximately 39.5 per cent of babies born to HIV positive mothers are infected with the virus. By June 2000 there were 830,000 people over the age of 15 years reported to be living with AIDS. Of these 450,000 were women while 380,000 were men.

The average tuberculosis case rate between 1964 and 1984 remained constant at 100 per 100,000 population. Since the advent of the HIV/AIDS epidemic the TB case rate increased nearly five-fold to over 500 per 100,000 population in 1996.

The TB co-epidemic is one of the most serious public health problems that have been triggered by HIV/AIDS epidemic. There are now in excess of 40 000 new tuberculosis cases reported every year. This figure is expected to rise by 10% annually in the next

few years. The tuberculosis co-infection has also resulted in an increased mortality rate of TB patients on treatment by over 15%.

The probability of transmitting HIV during unprotected sex rises dramatically if either partner is infected with another sexually transmitted disease (STD), such as syphilis or gonorrhoea. These infections form ulcers and sores that facilitate the transfer of the virus. The sexually transmitted infections (STI) constitute one of the major public health problems in Zambia. They account for 10 percent of all documented outpatient attendances in public health facilities. More than 50 percent of persons with a history of STD are infected with HIV.

There are, however, some positive trends: The prevalence of HIV infection in 15-19 year-old youths has dropped over most of the country between 1993 and 1998. In Lusaka, for example, while the rate was 28 percent in 1993, it had dropped to 15 percent in 1998. At the same time the overall prevalence of rates in the whole population appears to be stable and is not increasing. Although the current burden of infection will continue to negatively impact Zambia for many years, it is hopeful that the tide may be turning.

## 2.3. Transmission of HIV, STIs And TB

### 2.3.1 Transmission of HIV

9. HIV transmission in Zambia is primarily through heterosexual contact. This mode of transmission is exacerbated by the high prevalence of STIs, poor socio-economic status of women and high-risk sexual practices. Pre-natal (mother-to-child) transmission during pregnancy, at birth or while breastfeeding is the next significant mode of transmission. Others are through contaminated blood and blood products, use of needles, sharp instruments and sex between men.

Several other factors perpetuate HIV transmission. Among the major ones are the following:

- (a) **High levels of poverty** that directly or indirectly create vulnerability to HIV/AIDS. In turn, the consequences of HIV/AIDS lead to poverty resulting in a complex and mutually re-enforcing inter-relationship between HIV/AIDS and poverty; majority of the poor are women.
- (b) **High mobility** of specific social groups that put them at risk. These include refugees, long distance truckers, migrant workers, cross-border traders, fish mongers and uniformed security personnel. The high mobile groups are away from home for a long time while others are trying to get monetary and material favours
- (c) **Socio-cultural beliefs and practices** such as having multiple-sexual partners, dry sex and the traditional practice of widow/widower cleansing also facilitate the transmission of HIV; discussion of sexual matters between parents and children is a taboo. Some practices during initiation ceremonies that predispose Young men and women to HIV STIs.

- (d) **Stigma** that leads to discrimination, silence, shame, denial and blaming others with the result that corrective actions such as diagnosis and/or treatment are usually delayed;
- (e) **Information Education and Communication (IEC)** is inadequate or inappropriate due to the fact that in most cases information disseminated is not audience-specific and not based on evidence. In addition, communication methods used are usually directive rather than participatory, while the disabled persons are not catered for. Discussions of sexual matters between parents and their children are in most cases still regarded as taboo;
- (f) **Gender Issues** that perpetuate the dominance of male interests and lack of self-assertiveness on the part of women in sexual relations puts both men and women at risk. Women are taught to never refuse their husbands sex regardless of the number of extra-marital partners he may have or his non-willingness to use condoms. This is often the case even when he is suspected of having HIV or other STIs;
- (g) **Prison confinement** that increases the vulnerability to HIV due to frequent unprotected sex in the form of rape, non-availability and use of condoms as well as a high prevalence of STIs; and
- (h) **Drug and Alcohol abuse** that enhances the risk of HIV infection. Drug in-take through syringes has particularly been known to be a mode of HIV transmission among drug abusers.

### 2.3.2 Transmission of TB

Factors perpetuating transmission of TB include HIV infection, overcrowding, poor ventilation, poor nutrition and non-compliance to prescribed treatment.

### 2.3.1 Transmission of Sexually transmitted Infections.

STI transmission is mostly perpetuated by poverty, HIV infection is accentuated by unprotected sex, multiple sexual partners, non-compliance to treatment and lack of contact tracing.

## 2.4. Impact of HIV/AIDS/STI/TB

The HIV/AIDS epidemic has negatively impacted the social and economic spheres of the Zambian society and has contributed to the reversal of many of the development gains that were achieved before its advent.

### 2.4.1 Household and Community Levels

At the household level, the majority of those that are dying of HIV/AIDS are in their most productive years and are, quite often, the sole breadwinners. HIV/AIDS has, therefore, had a devastating effect by occasioning loss of income, poverty, changes in patterns of household expenditure, limited access to health and other social services, including the weakening of the family as the basic social unit. The integrity of the extended family has also been breached. At the community level, the impact of HIV/AIDS has manifested itself in loss of youthful members and cohesion.

### 2.4.2. Orphans and vulnerable children

About 700,000 children have lost one or both parents due to HIV/AIDS. The majority of these orphans have to live with extended family members or neighbours with about six per cent becoming street children and less than one (1) per cent living in orphanages. Many orphans do not attend school or are forced to drop out of school. In most cases, grand parents are left to care for the young and quite often grandparents have little or no source of income. Another development is the emergence of child-headed households. The rapid increase in the number of orphans continues to put tremendous strain on extended families and the social system to provide them with the needed care, resources and social guidance.

Individuals, CBOs, NGOs and religious organizations are currently managing the response to orphaned children in Zambia. The government institutional framework in the Ministry of Community Development and Social Services and Ministry of Youth Sport and Child Development are involved in the provision of services to orphans as well as the provision of grants to child friendly NGOs and CBOs. The challenges in relation to Orphans the vulnerable children are the identification of orphans especially in rural areas, public awareness of available services and limited resources. There are no standardised guidelines for orphanages on orphan and child care provision. In addition there are weak coping mechanism for orphan care within communities.

### 2.4.3. Women

Although women constitute about half of Zambia's population, they are disproportionately infected by the HIV virus. This is partially due to their vulnerability that is compounded by their limited access to reproductive resources such as land and credit. Unequal distribution of resources at the household level, lack of gender sensitive social security schemes and limited access to health services equally raise their susceptibility to HIV infection. About 18 per cent of adult females are HIV-positive

compared to 13 per cent for male adults. Women also bear the biggest burden of providing care and support to the chronically ill and to orphans.

#### 2.4.4. People Living With HIV/AIDS

There are adverse consequences for people living with HIV/AIDS (PLWHA), which include stigmatisation and discrimination. It is also common for people with HIV to lose their income as their health deteriorates and are unable to work. Sometimes, people with HIV are abandoned by their families and forced to live in isolation and destitution.

#### 2.4.5. The Work place

HIV/AIDS has negatively impacted on the public service and the private sector in a variety of ways. Workplaces are experiencing absenteeism, loss of productive workers, human skills replacement costs, huge funeral costs and compromise morale and performance. In some cases, infected workers further suffer from abrupt loss of income. Currently, employers do not budget for financial needs of infected employees with the result that full costs of treatment and care usually fall on shoulders of employees and family members.

The education sector is confronted with a high mortality rate among teachers that has led to a shortfall in teaching personnel. It is estimated that the HIV prevalence rate among teachers is in the order of 40 per cent and that HIV related illnesses and deaths would continue to cause critical staff shortages and lower the quality of education.

Similarly, the health sector is faced with astronomical costs of treating HIV/AIDS patients and related opportunistic infections such as TB and STIs. Available health infrastructure and systems are inadequate and not able to adequately address HIV/AIDS and its related challenges. A high morbidity and mortality among health workers has also resulted in a drastic reduction in the health sector's ability to effectively address the HIV/AIDS pandemic.

Agriculture forms one major component of the Zambian economy as most of the Zambian population are engaged in Agriculture. With the advent of HIV/AIDS this has led to ill health of farmers which leads to less productivity as the sick are too weak to engage in farming while the care givers who are mostly women absent themselves from the fields in order to care for the sick.

#### 2.4.6 Private Sector

The Business community in Zambia has reported an increase in mortality and morbidity among their workforce due to HIV/AIDS. This has affected productivity, recruitment, and, in particular, loss of trained personnel. Industries have reported an increase in funeral disbursements and ex-gratis payments.

As the epidemic persists, the private sector will be adversely affected in a number of ways. The workforce will not decline but will change in structure by becoming younger, inexperienced and less well trained. A disproportionately high number of skilled personnel will be lost, contributing to reduced productivity. Stigmatization and discrimination in the workplace targeted at people who are HIV-positive will compromise morale and work performance.

## 2.5 Plans and Programmes

In order to respond to the numerous challenges posed by the HIV/AIDS pandemic and in order to ameliorate its negative socio-economic impact, the Government has been undertaking various initiatives. Among them are the following:

- (a) In 1986, the Government established the National AIDS Prevention and Control Programme;
- (b) In 1987, an emergency short-term plan was developed to ensure safe blood and blood product supplies;
- (c) Between 1988 –1992, the First Medium-Term Plan prioritised eight operational areas, i.e. TB and Leprosy information, education and communication, counselling, laboratory support, epidemiology and research, STD and clinical care, programme management and home based care;
- (d) Between 1994 and 1998, the Second Medium-Term Plan, which was multisectoral in design and incorporated a mechanism for inter-sectoral co-ordination and collaboration, was implemented; and
- (e) Between 2001 and 2003, a National HIV/AIDS Strategic Framework was developed.

It has been acknowledged that the initial responses to HIV/AIDS were inadequate to contain a problem that was more than just medical in nature. Programmes and strategies that were subsequently developed, therefore, sought to foster political commitment at the highest level, develop inter-sectoral approaches encompassing all Government line Ministries, the private sector and civil society, while fully involving people living with HIV/AIDS. However, experience has so far demonstrated that coordination and collaboration between and among line Ministries and civil society organisations have been weak. This is particularly the case at provincial and district levels.

## 2.6. Prevention and Control

Prevention has been the cornerstone for the national response against the HIV/AIDS pandemic. This has been done through coordinated efforts of the Government, civil society and international cooperating partners. Major interventions have included raising awareness, influencing behaviour change, voluntary counselling and testing, prevention of mother-to-child transmission, promotion of condom use, case finding and treatment of STIs and provision of safe blood and blood products.

### 2.6.1 Information, Education and Communication (IEC) and Life skills Programmes

The main thrust of the IEC programmes has been the use of mass media to sensitise the public to HIV/AIDS/STI/TB. Popular channels have included television, radio, drama, role-plays, billboards and use of pamphlets. IEC has also included the introduction of appropriate HIV/AIDS awareness materials in school curricula. Several NGOs and Churches have also implemented IEC activities in their respective programmes.

Through the Ministry of Education, the Government has adopted and mainstreamed a number of HIV/AIDS/STI/TB and reproductive health teaching materials in school curricula. This has been done in keeping with the need to impart Life Skills education to boys and girls at both primary and tertiary education levels. Special Life Skills programmes have also been developed for targeted groups such as commercial sex workers, truck drivers, out-of-school youth and military personnel. These programmes are, however, limited in the sense that they tend to cover smaller populations along the line of rail. Secondly, the development of IEC materials does not often involve intended beneficiaries with result that they do not have any sense of ownership. Equally of concern is that, in some cases, messages are not well targeted or culturally appropriate.

### 2.6.2. Condoms and other Barrier Methods

Social marketing has so far been the primary strategy for increasing access, acceptability and use of condoms in Zambia. Male condoms have actively been marketed in throughout the country through mass media promotions, while traditional outlets such as health centres, pharmacies and drug stores have also been used. Non-traditional outlets such as bars and stores have equally been targeted and used for condom sales. Female condoms were long introduced in the country but their use is very low. Access to condoms is higher and easier in urban than in rural areas. Barrier methods such as spermicides are being promoted through family planning but their use is low.

### 2.6.3. Blood Transfusion

The Government has strengthened the blood transfusion service with centres at provincial headquarters. National guidelines for blood transfusion were developed and are in use. All district, provincial and central referral hospitals now have blood transfusion facilities. Blood products that are used in these health institutions are screened for HIV and syphilis and, to a lesser extent, for Hepatitis B. Prospective blood donors are, without exception, screened through the use of a risk assessment tool and any indication of heightened risk is sufficient to disqualify the donor. Testing is, however, constrained by frequent shortages of test kits for HIV, syphilis and Hepatitis B.

#### 2.6.4 Prevention and control of Sexually Transmitted Infections

Zambia's national STI control programme was launched in 1980. Its main objectives were to reduce the transmission of STIs, provide efficient diagnostic and treatment services and to conduct research on STIs. A network of 62 clinics located at the central, provincial and district hospitals were established to ensure etiological management. From 1990 to 1994, diagnostic, clinical management and prevention services at these centres were improved through training and the provision of diagnostic equipment and supplies. Unfortunately, since 1994, support to the Programme has not been commensurate with the rapid spread of STIs.

Many health centres in Zambia are using the syndromic approach for STI management and treatment. This is especially the case in instances of lack of equipment and trained laboratory staff. Treatment Guidelines have been distributed and health worker training has commenced in a number of districts. In a number of urban districts, syndromic management was integrated into maternal and child health services package at the health centre level with a view to improving pregnancy outcomes. Difficulties, however, remain with regard to staff training and retention, drug, supplies and reagent availability and public awareness and integration into MCH and family planning.

#### 2.6.5. Prevention of Mother-to-Child Transmission of STI and HIV

Prevention of mother-to-child transmission (PMTCT) of STI has been a critical component of the Government's response against HIV/AIDS and STIs. However, interventions have not been successful due to incessant shortages of testing kits for maternal syphilis screening programme and drugs for ophthalmic neonatorum prophylaxis. PMTCT has played a central role in preventing vertical transmission through the provision of ARVs and infant formulas. Currently, provision of ARVs is being scaled up in the in all provinces.

#### 2.6.6. Voluntary Counselling and Testing

Voluntary Counselling and Testing (VCT) is the entry point for diagnosis and management of HIV-infected persons. It has now become part of a wide range of interventions such as PMTCT of HIV, TB and STD programmes. Treatment of HIV/AIDS and home-based care also helps to challenge denial of infection and helps members of society to recognise and accept that one can live with HIV infection and still show no outward symptoms.

Government, through the National AIDS Programme, has trained counsellors throughout Zambia. These have, however, not adequately satisfied demand, while the quality of services lack periodic updating and follow up. It is the vision of the Government to decentralise counselling and testing facilities and make them readily available in public and private institutions and within communities. Currently, counselling services are available in 226 centres around the country. Guidelines for VCT administration have been introduced based on international standards.

### 2.6.7. Vaccine Development

It is clear that the availability of safe, effective and affordable HIV Vaccine would offer the best hope and be an important tool for present and future control of the HIV epidemic. Consequently, the Government attaches a lot of importance to programmes and activities that are targeted at vaccine development and procurement. However, in the implementation of the HIV vaccine strategy in the country, issues pertaining to human resource development, laboratory facilities and other infrastructure, including institutional arrangements for scientific and ethical appraisals for vaccine trials need to be addressed.

## 2.7. Treatment, Care and Support

Government recognises treatment, care and support as complimentary to prevention and control of HIV/AIDS/STI/TB. Over the past years, substantial investments have, therefore, been made in prevention and control measures. The magnitude of the problem has, however, out-stretched national efforts and capacities.

### 2.7.1 Prevention and control of TB

In the 1980s there was a very effective TB and leprosy control programme. With the coming of the health reforms this approach was abandoned and instead adopted the integrated approach. Unfortunately the desired results were not achieved as this led to very weak programmes on the prevention and control of TB.

### 2.7.2. Treatment of HIV/AIDS and other Opportunistic Infections

The approach has all along been to provide support through counselling and testing, treatment of symptomatic HIV-infected patients and encouraging home-based care through community approaches. Opportunistic infections have also been attended to through treatment of symptomatic HIV-infected patients using the normal health care delivery system. Since the beginning of the 1990s, treatment has included antiretroviral (ARV) drugs. Initially, the private sector predominated in the provision of ARVs but public health institutions have also scaled-up ARV treatment. Provision of ARV treatment started with pilot sites at the University Teaching Hospital (UTH) and Ndola Central Hospital. The programme has now spread to all provincial centres and plans are underway to roll it to the district level. What might, however, hold the expeditious expansion of the ARV treatment programme is the critical shortage of skilled health personnel. Provision of ARVs by the private sector has a limitation in the sense that there are limited laboratory facilities for monitoring patients. In addition, some drugs are brought in without proper registration and quality control.

Government acknowledges the fact that ARVs prolong and improve the quality of life as evidenced by those who have access to these drugs. These have continued to lead normal lives and to contribute to national development. Unfortunately, most Zambians

living with HIV/AIDS have limited knowledge of where and how they can access ARVs. Uptake of ARVs is currently limited largely due to their relatively high cost. Effective delivery of ARVs is equally constrained by the lack of official operational guidelines on clinical application of their various combinations.

#### 2.7.3. Traditional/Alternative Remedies

It has been recognised that most Zambians seek traditional and/or alternative remedies/treatment. This is supported in part by the many claims that have been made in regard to curing HIV/AIDS/STI/TB through alternative/traditional remedies. However, to date, claims of successful cures of HIV/AIDS have not been scientifically proved, while there has never been any empirical interrogation and verification of the efficacy, potency and toxicity of traditional remedies. In the meantime, there is no collaboration between practitioners of formal and traditional medicines.

#### 2.7.4. Home-Based Care

The development of home-based care models in Zambia was partly in response to the unprecedented costs within the formal health sector and the increasing demand for hospital beds. Home-based care in Zambia is implemented in two main ways:

- (a) Outreach programmes initiated by health institutions (vertical programmes) that reach out to communities and eventually fuse into community-level activities; and
- (b) Community initiated programmes (horizontal programmes). These are quite often initiated by non-governmental organisations, faith-based organisations and other voluntary organisations. Community-based volunteers and support from faith-based organisations (FBOs), religious and health facilities form the backbone of these programmes.

Home-based care has been found to be an effective complement or alternative to hospital services. However, cost implications place a high economic burden on those providing care on voluntary basis. Quite often, the ability of home-based care providers is severely constrained with the result that services are difficult to spread to all needy populations. In addition, due to limited resources for outreach activities, hospital-initiated community programmes, such as rehabilitation and patient monitoring, have not reached out to wider communities. The weak linkages between and among health institutions and community-based home-care programmes and activities compound these limitations.

#### 2.7.5. Support for the Infected and Affected

Though counselling of the infected and affected people exists, it is on a limited scale and there is an urgent need to expand coverage. Support is, on the other hand, limited and whatever help there is comes from institutions such as Churches, faith-based organisations, the Government's Public Welfare Assistance Scheme (PWAS) through

the Ministry of Community Development and Social Services (MCDSS), some non-governmental organisations (NGOs) and community based organisations (CBOs).

Other programmes, such as drop-in centres, are involved in food provision, education and recreation but they are on very limited scale and are generally under-funded. At the level of the community, small-scale agricultural schemes are managed with profits going to those most in need. Coping strategies at household and community levels have mainly centred on small-scale income generating activities. Village public assistance committees are functional in some areas and have undertaken projects targeted at enhancing household food security and incomes. HIV/AIDS awareness has been undertaken through the establishment and operation of community schools.

#### 2.7.6. People Living With HIV/AIDS

PLWHAs have come together and formed the Network of Zambian People (NZP+) Living with HIV/AIDS. This non-Governmental organisation has the objective of promoting and enhancing the quality of life, dignity and self-esteem of people with HIV/AIDS and to reduce vulnerability to HIV infection. It also provides an important contribution to the national discourse on HIV/AIDS/STI/TB. NZP+ is actively involved at community, district and national levels in shaping the response to the HIV/AIDS epidemic. It accomplishes this by participating in the design, development and implementation of HIV/AIDS-related policies and programmes. Indeed, it is now customary for Government line Ministries and agencies to include NZP+ members in the formulation of HIV/AIDS-related programmes and activities.

#### 2.7.7. Orphans and vulnerable children

Stakeholder involvement in the alleviation of difficulties faced by orphans and vulnerable children includes CBOs, NGOs, CBOs and FBOs. On its part, the Government provides support to orphans through the Ministry of Community Development and Social Services (MCDSS). Support includes small grants to NGOs and CBOs that are involved in programmes aimed at alleviating the plight of orphans. There are, however, challenges such as the identification of orphans (especially in rural areas), inadequate public awareness of available services and limited resources. Poverty alleviation for orphans requires standardisation of childcare provisions and the development and coordination of coping mechanisms within communities.

### 2.8. Human Rights and HIV/AIDS

HIV/AIDS negatively touches and impacts fundamental human rights. There have, for instance, been cases involving job redundancies and abrupt loss of income on account of the HIV/AIDS status of an employee. Stigmatisation and discrimination have also been rife in homes, communities, schools and workplaces with the result that the infected have found it doubly difficult to lead normal lives. Indeed, it has now been established that there is a correlation between the HIV/AIDS pandemic and the abuse of human rights.

### 2.8.1. HIV/AIDS and the Workplace

Section 28 of the Employment Act requires that every employee shall be medically examined by a qualified and competent Medical Officer before he/she enters into a contract of service of at least six months' duration. The purpose of the examination is to ascertain the fitness of the employee to undertake the work that he/she is required to do. Although the Act does not require that prospective employees be tested for HIV/AIDS, some employers still request for mandatory testing. Prospective employees usually comply, as there is no law to protect them. Currently there is no provision in the labour act for continuous testing for physical fitness of employees.

### 2.8.2. Confidentiality

Confidentiality is key to ensuring that the right to privacy of infected persons is upheld. It is, therefore, important to allow infected persons space to conscientiously choose to either make their status public or keep it private. Confidentiality should, however, not apply to ones sexual partner or spouse as doing otherwise would encourage wilful transmission. Currently in cases of defilement compromise outside courts of law does exist.

### 2.8.3. Silence, Stigma and Discrimination

Silence, Stigma and discrimination affect all sections of society as either infected or affected. They particularly affect women, the girl-child and vulnerable groups such as the differently-abled. Perpetuation of stigma and discrimination causes some infected persons to delay their notification of their HIV status and, by extrapolation, treatment, care and support. In order to address the twin problem of stigma and discrimination, the Government has been sensitising communities to the importance of observing human rights for all irrespective of ones HIV/AIDS status and social or economic standing. Government HIV/AIDS sensitisation programmes and activities are undertaken through provincial and district HIV/AIDS Task Forces and HIV/AIDS Focal Points in line Ministries. NZP+ members, on their part, have been models in fighting stigma and continue to assist communities in becoming open and positive in their discourse on HIV/AIDS/STI/TB and building tolerance and people-centred responses.

## 2.9. Human Resource Development And Training

Since the inception of the National HIV/AIDS/STI/TB Council there has been an effort to beef up the human resource with skills in the fight of HIV/AIDS/STI and TB as a step in doing this the government and NGOs have trained core team comprising physicians, nurses, counselor, Nutritionists, Pharmacists, and laboratory technicians to spearhead the implementation of ARVs in the nine provinces. However these are not adequate to cater for all the clients requiring their services. In addition the counselors are not on the government establishment.

## 2.10. Research and Development

The Government looks at Research and Development as important elements in the fight against the HIV/AIDS pandemic. In this regard, it is committed to the promotion of R&D activities in formal medicines and vaccines and traditional medicines. There is, however, currently inadequate prioritisation, coordination and application of R&D. Other constraints include inappropriate infrastructure and equipment, inadequacy of suitably trained and experienced human resource and weak institutional linkages.

Traditional healers have been working with Government to address the problem of HIV. However there has been no legislation to regulate the practice of traditional medicine

## 2.11. Institutional Framework

An effective response to the HIV/AIDS epidemic requires the adoption of strategic partnerships involving Government Ministries, local and international NGOs, CBOs, FBOs, the private sector, Members of Parliament, traditional leaders, the United Nations (UN) System and international bilateral and multilateral development partners. This approach requires effective coordination of policies and activities by all partners with a view to ensuring synergies and maximising the utilisation of limited health resources.

A multisectoral and multidimensional institutional framework now exists and comprises:

- (a) A Cabinet Committee of Ministers which currently includes Ministries of Health, Mines and Minerals Development, Education, Communications and Transport, Community Development, Information and Broadcasting Services and Finance and National Planning. The Committee's mandate is to provide policy direction, political leadership and advocacy. There is, however, need to revisit this set up with a view to enhancing representation and effectiveness;
- (b) National HIV/AIDS/STI/TB Council whose mandate is to co-ordinate, monitor and evaluate multi-sectoral national anti-HIV/AIDS interventions, undertake research and provide technical guidance to implementing agencies;
- (c) Designated HIV/AIDS/STI/TB Focal Point Persons in all line Ministries and parastatals. Their role is, however, taken as a secondary to normal functions. Concern has also been expressed with regard to the capacity of Focal Point persons to effectively mainstream HIV/AIDS in sectoral programmes; and
- (d) A number of NGOs and CBOs FBOs are complementing Government efforts. Their linkages between and among themselves and NAC are, however, weak and need strengthening.

The accountability for the resources that go towards HIV/AIDS /TB are currently weak and need strengthening to ensure that the resources are put to good use and reach the intended target groups.

## 2.12. Legal Framework

The enactment of the National HIV/STI/TB Act in 2000 by Parliament led to the creation of the National HIV/AIDS/STI/TB Council a body that coordinates efforts being done to fight HIV/AIDS by the private, civil society and government institutions.

There is a vacuum in the existing legislation with regard to the provision for proactive services and measures to fight HIV/AIDS. Currently stakeholders are not obliged to account for resources they have received either locally or from abroad.

## 2.13 Resource Mobilization

Currently resources devoted to the fight against HIV/AIDS/STI/TB are inadequate and not evenly distributed.

## 2.14. Monitoring and Evaluation

A number of clinical, epidemiological, behavioural and impact studies related to HIV/AIDS/STI/TB have been carried out. Sentinel surveillance systems for HIV and population-based studies have been used to monitor the trend of HIV infections. A system of collecting information from health facilities has been put in place to capture cases of HIV/AIDS, STIs, TB and other opportunistic infections. The system, however, needs strengthening in support of effective data collection and analysis at all levels of health care.

## CHAPTER 3

### 3.0. VISION, RATIONALE AND GUIDING PRINCIPLES

#### 3.1. Vision and goal

The Vision of the National HIV/AIDS Policy is a nation free from Human Immunodeficiency Virus and Acquired Immunodeficiency syndrome (HIV/AIDS) Sexually transmitted infections and Tuberculosis.”

#### 3.2. Rationale

The priority of Government has been to prevent and control the spread of HIV/STI/TB, promote care for those who are infected and affected, and reduce the personal, social and economic impact of the epidemic. HIV/AIDS interventions by the Government and other stakeholders have, however, been undertaken in the absence of a national policy environment. This has resulted in dissipation of scarce health resources and lack of coordination of HIV/AIDS interventions by various stakeholders. The lack of a national policy and, consequently, policy direction, has, on the other hand, made it immensely difficult to effectively mainstream HIV/AIDS prevention and control in national development plans and programmes. Given this background, it is anticipated that this Policy will provide the requisite framework for informing and guiding various stakeholders in their planning and execution of their HIV/AIDS interventions. It is also expected to contribute to building a formal mechanism for rationale health resource mobilisation and coordination.

#### 3.3. Guiding Principles

The policy will be guided by the following underlying principles which are in line with the general health vision:

**Political Leadership and commitment:** strong Political leadership and commitment at all levels is essential for sustained effective response to HIV/AIDS/STI/TB.

**Multisectoral approach and Partnership:** all sectors of society must be actively involved in the design implementation review monitoring and evaluation of the national response to HIV/AIDS/STI/TB in order for it to be effective.

**Public Health Approach:** A public health approach reduces the risk of HIV/STI/TB transmission by focusing on the most effective prevention and medical care information and interventions.

**Promotion and Protection of human rights:** an effective response to the epidemic requires that the Zambian rights to equality before the law and freedom from discrimination are respected protected and fulfilled.

**Greater involvement of PLWAs:** The greater involvement of PLWAs at all levels is critical for an effective response to HIV/AIDS.

**Good governance, Transparency and Accountability:** An effective national response to the epidemic requires government to provide leadership, good governance, transparency and accountability at all levels and in all sectors.

**Scientific and evidence based Research:** It is essential that the national; response to HIV/AIDS be based on sound, current , empirically based research

**Sustainability:** The interventions embarked on should be sustainable considering the economic situation of the nation. Government shall remain open to new initiatives that are effective and sustainable interventions.

**Three ones approach:** Zambia's HIV/AIDS interventions should be informed and guided by the three ones, i.e. one national strategic plan, one monitoring and evaluation plan and one national monitoring and evaluation body

**Pro-poor and mainstreaming of HIV:** HIV/AIDS interventions should be pro-poor and, consequently, HIV/AIDS should be mainstreamed in the Poverty Reduction Strategy paper (PRSP), Public Service Reform Programme (PSRP), Medium Expenditure Framework (MTEF) and other national development documents.

**Gender:** Addressing gender equity issues and HIV concerns are a central element in the fight against HIV/AIDS;

**Decentralisation:** To ensure maximum participation by communities the implementation of the National HIV/AIDS/STI/TB policy shall be in line with the National Decentralisation Policy

## **CHAPTER 4**

### **4.0. AIMS AND OBJECTIVES**

#### **4.1 Main objective**

The aim of the National HIV/AIDS/STI/TB Policy is to attain a society in which the prevalence and impact of HIV/AIDS/STI/TB are significantly reduced to levels where they become manageable socio-economic and public health problems and in which people infected and affected by HIV/AIDS/STI/TB live positively without stigma and discrimination.

#### **4.2 Broad Objectives**

The broad objectives of the national HIV/AIDS/STI/TB policy

- (a) To ensure that Zambia complies with international practices in its interventions against the HIV/AIDS pandemic and treatment of infected and affected people.
- (b) To promote partnership and ensure that all sectors of society are actively involved in the design implementation, review, monitoring and evaluation of the national response to HIV/AIDS in order for it to be effective
- (c) To achieve the highest levels of social mobilisation against and political commitment to the fight against HIV/AIDS/ STI/TB
- (d) To effectively mainstream equity considerations and gender in HIV/AIDS programmes and activities and to enhance women's role in making decisions in sexual partnerships
- (e) To fully exploit the potential of faith-based organisations in the fight against HIV/AIDS.
- (f) To promote the use of traditional values and strengths as part of the foundation for the fight against HIV/AIDS
- (g) To resolve the challenges associated with HIV/AIDS at work place,
- (h) To ensure that rights of HIV-infected and affected people are protected and stigma and discrimination are eliminated
- (i) To protect the rights of children and young people and to avail them access to HIV/AIDS prevention and care services.
- (j) To promote and support public and private scientific research initiatives in causes and treatment of HIV/AIDS
- (k) To create a supportive environment for the effective prevention of HIV/AIDS.
- (l) To raise public awareness of the dangers of contracting HIV/AIDS and the negative impact that the pandemic has on society and also to promote good social norms and behavioural change
- (m) To equip Zambians, and especially the youth, with knowledge and life-saving skills as a way of preventing HIV infection
- (n) To sensitise communities to the importance of VCT as a means of knowing ones status.
- (o) To make condoms and other barrier methods available, accessible and affordable to all sexually active individuals throughout the country

- (p) To ensure that only safe and secure blood is used in blood transfusion services in health facilities
- (q) To provide quality STI diagnostic and treatment services at all levels of the health care delivery system.
- (r) To minimise vertical transmission of HIV from the mother to the child.
- (s) To provide effective diagnostic and treatment services for HIV/AIDS-related opportunistic infections at all levels of the health care system
- (t) To increase the availability and accessibility of antiretroviral drugs and their safe and equitable distribution
- (u) To promote the use of safe alternative or traditional remedies
- (v)** To engender public awareness of the link between good nutrition and good health.
- (w) To strengthen treatment, care and support structures for infected and affected people
- (x) To mitigate the high risk of HIV infection common among vulnerable groups.
- (y) To establish and strengthen structures for effective coordination of multisectoral HIV/AIDS/STI/TB responses at national, provincial, district and community levels.
- (z) To create a conducive legal framework for addressing the HIV/AIDS pandemic.
- (aa) To ensure availability of adequate resources for fighting against the HIV/AIDS, STIs, TB and other opportunistic infections.
- (bb) To strengthen programme monitoring and Evaluation of various HIV/AIDS/STI/TB interventions.
- (cc) To build capacity in human development and training in the area of HIV/AIDS/STI/TB.

## CHAPTER 5

### 5.0 . GENERAL AND CROSS-CUTTING POLICY OBJECTIVES AND MEASURES

#### 5.1. Domestication of International Declarations on HIV/AIDS

**Objective:** To ensure that Zambia complies with international practices in its interventions against the HIV/AIDS pandemic and treatment of infected and affected people.

**Measures:** Given the global nature of the HIV/AIDS pandemic, the Government shall ensure that it:

- (a) Domesticates in its statutes all international agreements, conventions and declarations in respect of HIV/AIDS;
- (b) Heightens national awareness of all relevant international agreements, conventions and declarations on HIV/AIDS; and
- (c) Translates all relevant international agreements, conventions and declarations into concrete programmes and strategies in tandem with local conditions.

#### 5.2. Multisectoralism

**Objective:** To ensure that all sectors of society are actively involved in the design implementation, review, monitoring and evaluation of the national response to HIV/AIDS in order for it to be effective.

**Measures:** In order to achieve the stated vision of a nation free from HIV/AIDS, Government shall adopt a multisectoral approach so as to:

- (a) Ensure that all ministries effectively streamline and enhance their HIV/AIDS to their core activities.
- (b) Support religious organizations to adopt effective approaches that enable them to discuss, understand and provide appropriate HIV/AIDS preventive services, care and support to their respective constituencies.
- (c) Support traditional institutions to adopt effective approaches that enable them and the community to discuss, understand and provide appropriate HIV/AIDS preventive services, care and support within the context of their respective social values.
- (d) Involve and encourage employees, employers, trade unions and other workplace related institutions to initiate and implement workplace based HIV/AIDS/STI/TB prevention, care and support programmes throughout the country.
- (e) Ensure that HIV/AIDS/STI/TB education, care and support are incorporated in core functions of NGOs and other civil society stakeholders.

### 5.3. Increased Advocacy, Social Mobilisation and Communication

**Objective:** To achieve the highest levels of social mobilisation against and commitment to the fight against HIV/AIDS.

**Measures:** The fight against HIV/AIDS requires a coordinated national response. In order to achieve this and to attain the highest level of social mobilisation and purpose, the Government shall:

- (a) Declare HIV/AIDS as a national disaster;
- (b) Be committed to high-profile advocacy of HIV/AIDS in all official meetings and gatherings;
- (c) Ensure that all national leaders at all levels are conversant with and understand the HIV/AIDS context and implications as well as their expected role in fighting the scourge;
- (d) Encourage and support the family and community as the basic social unit of society in the protection and fight against HIV/AIDS/STI/TB;
- (e) Promote stronger and more strategic partnerships with all stakeholders such as Non-Governmental Organisations, Community-Based Organisations and the private sector in the fight against HIV/AIDS/STI/TB; and
- (f) Facilitate and support dialogue at national, sub-national and community levels with a view to engendering social change for effectively fighting against the HIV/AIDS pandemic

### 5.4. Enhanced Equity and Gender Sensitivity

**Objective:** To effectively mainstream equity considerations and gender in HIV/AIDS programmes and activities and to enhance women's role in making decisions in sexual partnerships.

**Measures:** The Government is committed to the promotion of equity of access to all HIV/AIDS/STI/TB treatment programmes and gender equity in making decisions in sexual relationships. In this regard, it is shall:

- (a) Mainstream gender in national development planning and programmes;
- (b) Adopt a gender-sensitive approach to planning and implementation of national development programmes;
- (c) Mainstream vulnerable groups such as the differently-abled, orphans and vulnerable children (OVCs) and economically-disadvantaged population groups in national development programmes; and
- (d) Strengthen the enforcement of existing legislation dealing with sexual harassment, abuse and gender-based violence.

### 5.5. Incorporation of Faith-based Organisations

**Objective:** To fully exploit the potential of faith-based organisations in the fight against HIV/AIDS.

**Measures:** In order to fully exploit the potential of faith-based organisations in the fight against HIV/AIDS, Government shall:

- (a) Encourage faith-based organisations and networks to play a leading role in mobilisation of their respective constituencies in HIV/AIDS prevention, care and support;
- (b) Encourage and promote inter-faith consultation, co-ordination and collaboration on HIV/AIDS issues; and
- (c) Encourage and support promotion of abstinence and other faith-based approaches and strategies for the optimal and effective prevention and mitigation of HIV/AIDS.

## 5.6. Involvement of Traditional Leadership and Structures

**Objective:** To promote the use of traditional values and strengths as part of the foundation for the fight against HIV/AIDS.

**Measures:** In order to effectively involve the country's traditional leadership and structures in the fight against HIV/AIDS and to take cognizance of cultural norms and values with a positive bearing on HIV/AIDS prevention, care and support, the Government shall:

- (a) Encourage and support traditional leaders to play a leading role in the promotion of HIV/AIDS awareness amongst their respective populations;
- (b) Encourage and support traditional leaders in their efforts to engender social and cultural change as a means of prevention and control of HIV/AIDS;
- (c) Develop the HIV/AIDS capacities and competences of traditional leaders and structures; and
- (d) Provide technical backstopping to HIV/AIDS programmes and activities carried out by traditional leaders.

## 5.7. Employment and the Workplace (Private, public etc)

**Objective :**To resolve the challenges associated with HIV/AIDS at work place,

**Measures:** In order to resolve the challenges associated with HIV/AIDS at work place, government shall

- (a) Involve and encourage employees, trade unions and other workplace related institutions to play leading roles in the fight against HIV/AIDS.
- (b) Encourage the development of HIV/AIDS/STI/TB workplace policies
- (c) Encourage and support work place based HIV/AIDS/STI prevention, care and support programmes throughout the country.
- (d) Ensure that HIV positive employees are protected from harassment and discrimination.
- (e) Not allow or endorse compulsory HIV testing at places of work.
- (f) Integrate HIV/AIDS care and support services in collective bargaining agreements.

## 5.8. Protection of Human Rights and Prevention of Stigma and Discrimination

**Objective:** To ensure that rights of HIV-infected and affected people are protected and stigma and discrimination are eliminated.

**Measures:** Many people who are living with HIV/AIDS are usually stigmatised and discriminated. Contraction of HIV/AIDS should, however, be treated like any other diseases and should, therefore, not be targeted for stigma and discrimination. In order to achieve this, the Government shall:

- (a) Encourage voluntary counselling and testing for all persons and insist on the maintenance of confidentiality by health care providers and employers;
- (b) Legalise mandatory testing in cases of persons charged with sexual offences that could involve the risk of HIV transmission;
- (c) Not encourage anonymous (without consent) HIV testing;
- (d) Discourage mandatory testing for scholarships and employment;
- (e) Legislate against individuals who deliberately and knowingly withhold their HIV status from their partners or spouses;
- (f) Legislate against wilful transmission of HIV/AIDS;
- (g) Educate the public about the need to eliminate stigma and discrimination against PLWHA;
- (h) Encourage the insurance industry to develop and apply policies which take into account the insurance needs of persons with HIV/AIDS;
- (i) Integrate HIV/AIDS services required by people with different abilities in existing health and social welfare delivery systems; and
- (j) Promote positive living among people living with HIV and AIDS.

## 5.9. Protection of Rights of Children and Young People

**Objective:** To protect the rights of children and young people and to avail them access to HIV/AIDS prevention and care services.

**Measures:** Children and young people in general, are quite often in defenceless and precarious positions when they are infected with or affected by the HIV virus. In order to mitigate the difficulties that children and young people face in regard to the HIV/AIDS pandemic, the Government shall:

- (a) Mainstream parents of street kids and other vulnerable children in the design and implementation of programmes targeted at alleviating their plight;
- (b) Ensure that children and young people, regardless of their HIV status, enjoy
- (c) rights as enshrined in the African Charter, UN Convention on the Rights of Child and relevant Zambian laws;

- (d) Promote programmes that enhance coping mechanisms of parents and guardians of orphans and other vulnerable children, including street children;
- (e) Ensure that confidentiality of children's HIV status is strictly maintained and communicated to the child, parents, guardians or prospective foster parents only if the communication does not harm the rights of the concerned child; and
- (f) Train a special cadre of health personnel in skills for counselling children and young people about the dangers of early sex, unwanted pregnancies and the importance of preventing HIV infection.

#### 5.10. Promotion of HIV/AIDS relevant Research & Development (R & D)

**Objective:** To promote and support public and private scientific research initiatives in causes and treatment of HIV/AIDS.

**Measures:** In order to promote and support HIV/AIDS related research and development, the Government shall:

- (a) Develop a national HIV/AIDS Research Strategy that will contain a clear research agenda
- (b) Establish links with research institutions and will promote cooperation between research agencies to maximise utilisation of research findings
- (c) Ensure that appropriate ethical review committees prior to research being undertaken approve research.
- (d) Encourage, support and strengthen research related to HIV/AIDS/STI/TB by both local and international researchers;
- (e) Support identified priority health research and application of research findings;
- (f) Promote research in traditional/alternative remedies;
- (g) Provide appropriate infrastructure and funding for HIV/AIDS/STI/TB research programmes;
- (h) Encourage collaboration and coordination between and among local and international health researchers;
- (i) Ensure Zambia's participation in vaccine development in partnership with international health research institutions;
- (j) Invest in appropriate infrastructure and human resources that are requisite for vaccine development and Clinical Trials; and
- (k) Negotiate for preferential access to outcomes of vaccine research.
- (l) Organise HIV/AIDS Research Dissemination Seminars where all new biomedical and social research relating to HIV/AIDS will be disseminated

## 5.11. Creating a Supportive Environment

**Objective:** To create a supportive environment for the effective prevention of HIV/AIDS.

**Measures:** The Government acknowledges the fact that proposed HIV/AIDS interventions can only succeed in an environment that is supportive of programmes and activities of various stakeholders. In this regard, it shall:

- (a) Provide financial support and income generating services to high risk and vulnerable groups;
- (b) Strictly enforce laws against underage admission to restricted places such as bars and taverns;
- (c) Intensify media censorship of pornography, pornographic and other obscene materials; and
- (d) Stiffen penalties for child defilers.

## CHAPTER 6

### 6.0. PREVENTION AND CONTROL POLICY MEASURES

#### 6.1. Improved and Expanded IEC

**Objective:** To raise public awareness of the dangers of contracting HIV/AIDS and the negative impact that the pandemic has on society and also to promote good social norms and behavioural change.

**Measures:** It is now acknowledged that some people get infected with the HIV virus and, subsequently, get full-blown AIDS because of lack of information. In order to get around this problem, the Government shall:

- (a) Scale-up its sensitisation programmes and activities through HIV/AIDS information, education and communication (IEC). IEC materials will be prepared using participatory methods;
- (b) Promote social and behavioural change as a way of preventing HIV infection;
- (c) Ensure that people throughout the country have access to clear, accurate and relevant HIV/AIDS/STI/TB information through appropriate and accessible channels;
- (d) Devise mechanisms for documenting emerging innovations in responses to HIV/AIDS and disseminate them in a timely and user-friendly manner;
- (e) Promote and undertake awareness campaigns on the need for male involvement in taking care of the chronically ill;
- (f) Introduce public education on the dangers of certain cultural and religious practices that perpetuate the spread of HIV/AIDS/STI/TB; and
- (g) Mobilise and strengthen the mass media and interpersonal communications as a means of promoting HIV/AIDS/STI/TB prevention, control, care and impact mitigation policies and interventions.

#### 6.2. Building Life-Saving Skills

**Objective:** To equip Zambians, and especially the youth, with knowledge and life-saving skills as a way of preventing HIV infection.

**Measures:** Quite often, HIV is contracted because of lack of knowledge and appropriate life-saving skills. In order to address this problem, the Government shall:

- (a) Ensure that HIV/AIDS/STI/TB education and life-saving skills are integrated in school curricula and are regularly reviewed;
- (b) Encourage parents and guardians to communicate with young people about sexuality and HIV/AIDS/STI/TB and to help them develop their life skills;
- (c) Encourage and support the integration of positive HIV/AIDS/STI/TB education in traditional sexual practices;
- (d) Support IEC interventions targeted at out-of-school children and youth;

- (e) Promote awareness of the dangers of alcohol and drug abuse and their role in increasing the risk of contracting HIV;
- (f) Promote community-based VCT; and
- (g) Create income generating opportunities especially for out-of-school youth.

### 6.3. Strengthening and Expansion of Voluntary Counselling and Testing (VCT)

**Objective:** To sensitise communities to the importance of VCT as a means of knowing ones status.

**Measures:** Voluntary Counselling and Testing is about the best way for those wanting to know their HIV/AIDS status. It also allows for early diagnosis, treatment and conditioning one to handle and positively live with the epidemic. Given these positive elements of VCT, the Government shall:

- (a) Promote the establishment of VCT centres in all its major health facilities throughout the country;
- (b) Develop and disseminate appropriate procedures, guidelines and standards (protocols) for VCT services;
- (c) Ensure that only HIV testing techniques and approaches that meet required national and international standards are utilised;
- (d) Strengthen and support VCT as an integral component of HIV/AIDS/STI/TB prevention, control and care;
- (e) Support appropriate training in VCT;
- (f) Support institutions and organisations offering VCT training;
- (g) Develop VCT guidelines for children;
- (h) Promote community-based counselling and testing; and
- (i) Standardise guidelines for peer educators and counsellors.

### 6.4. Improved Availability of Condoms and Other Barrier Methods

**Objective:** To make condoms and other barrier methods available, accessible and affordable to all sexually active individuals throughout the country.

**Measures:** Condoms and other barrier methods are known to drastically reduce the risk of HIV infection. In order to promote the use of condoms and other barrier methods, the Government shall:

- (a) Encourage the use of male and female condoms and other barrier methods in sexual relations;
- (b) Ensure that condoms are easily accessible to sexually active people through various distribution channels;
- (c) Ensure highest standards of condoms through quality control measures and adherence to registration and distribution requirements as provided under the Pharmacy and Poisons Act of the Laws of Zambia; and
- (d) Ensure that proper instructions and information on the use and disposal of condoms are provided in user-friendly relevant languages.

## 6.5. Provision of Safe and secure Blood Transfusion Services

**Objective:** To ensure that only safe and secure blood is used in blood transfusion services in health facilities.

**Measures:** It is now acknowledged that transfusion of HIV-infected blood is one of the main ways in which HIV is transmitted. Mindful of this, the Government shall:

- (a) Insist on screening all donated blood for HIV, Syphilis, hepatitis B and other infections before transfusion;
- (b) Ensure that effective blood donor recruitment, selection, blood donation and storage strategies are streamlined and strictly applied;
- (c) Provide adequate blood donation and transfusion infrastructure and equipment in all major health facilities; and
- (d) Establish a mechanism for letting blood recipients know the safety of blood before transfusion.

## 6.6. Prevention and Control of Sexually Transmitted Infections

**Objective:** To prevent, control STIs and provide quality STI diagnostic and treatment services at all levels of the health care delivery system.

**Measures:** STIs increase the likelihood of contracting the HIV virus. Consequently, the early diagnosis and treatment of STIs is a critical element in combating the HIV/AIDS scourge. In order to combat the spread of STIs, the Government shall:

- (a) Discourage unprotected sex and multiple sexual partners
- (b) Encourage compliance to treatment and contact tracing.
- (c) Ensure availability of appropriate infrastructure, equipment, drugs and reagents in all health facilities for diagnosing and treatment of STIs;
- (d) Strengthen STI management skills of health workers at all levels of the national health care system through improved human resource training and adequate provision of drugs and supplies;
- (e) Promote the use of standardised management and treatment protocols for opportunistic illnesses in both public and private health facilities; and
- (f) Play a leading role in price negotiations for STI treatment drugs.

## 6.7. Prevention of Mother-to-Child Transmission (PMTCT) of HIV

**Objective:** To minimise vertical transmission of HIV from the mother to the child.

**Measures:** It is presently estimated that the HIV virus infects about 40 per cent of all babies born to HIV-positive mothers in Zambia. In order to arrest this trend, the Government shall:

- (a) Encourage women and couples considering having a baby to first seek VCT;

- (b) Ensure that every pregnant woman has access to HIV/STI screening and treatment;
- (c) Provide specific information to the public on how to prevent mother-to-child transmission of HIV and other STIs;
- (d) Facilitate and support access to ARVs by HIV-positive pregnant women;
- (e) Support exclusive breastfeeding among HIV-positive mothers where options for child feeding are not available;
- (f) Support HIV-positive mothers who choose not to breastfeed with information on appropriate alternatives and potential risks; and
- (g) Provide post-test and post-delivery services to mothers.

## CHAPTER 7

### 7.0. TREATMENT, CARE AND SUPPORT POLICY MEASURES

#### 7. 1. Prevention and control of Tuberculosis

**Objective:** To prevent, control TB and provide quality TB diagnostic and treatment services at all levels of the health care delivery system.

**Measures:** In order to prevent and control the transmission of TB government shall:

- (a) Facilitate the development of guidelines and protocols on the diagnosis treatment and follow up of TB cases.
- (b) Ensure construction of well-constructed and ventilated houses
- (c) Facilitate the construction of well-constructed and ventilated public infrastructure and public utilities to avoid crowding.
- (d) Promote good nutrition and eating habits for the Zambians
- (e) Ensure compliance to TB treatment for the patients

#### 7.2 Treatment of other Opportunistic Infections

**Objective:** To provide effective diagnostic and treatment services for HIV/AIDS-related opportunistic infections at all levels of the health care system.

**Measures:** In order to address the problem of HIV/AIDS-related opportunistic infections, the Government shall:

- (a) Ensure availability and accessibility of appropriate infrastructure, equipment, drugs and reagents in all health facilities for diagnosing and treatment of major opportunistic infections;
- (b) Strengthen skills in management of opportunistic infections at all levels of health care;
- (c) Facilitate the standardisation of management and treatment protocols for opportunistic infections in both public and private health facilities; and
- (d) Play a leading role in price negotiations of prices for drugs and supplies for the treatment of opportunistic infections; and
- (e) Train and retain adequate skilled human resources.

### 7.3. Access to Anti-Retroviral (ARV) Drugs

**Objective:** To increase the availability and accessibility of antiretroviral drugs and their safe and equitable distribution.

**Measures:** ARVs are known to immensely prolong lives of HIV-infected persons. The limitation, however, is that their accessibility is constrained by, among others, inadequate information of where and how to get them. In order to increase access to and affordability of ARVs, the Government shall:

- (a) Scale-up its ARV treatment programmes at all levels of health care;
- (b) Enforce strict quality, safety, and efficacy registration standards for all domestically-manufactured and imported ARVs;
- (c) Take a leading role in ARV price negotiations with manufacturers;
- (d) Create a revolving fund for procurement of ARVs;
- (e) Create an enabling environment for manufacturing HIV/AIDS drugs in the country;
- (f) Ensure that appropriate infrastructure, equipment and trained personnel are put in place throughout the country for ARV administration;
- (g) Promote universal routine counselling and testing of all at-risk patients entering a health facility, i.e. routine Opt-out HIV Testing; and
- (h) Provide post-exposure of prophylaxis and access to care for care-givers

### 7.4. Utilisation of Alternative or/and Traditional medicines

**Objective:** To promote the use of safe alternative or traditional medicines.

**Measures:** Traditional medicine has always been part of Zambia's traditional medical practice. However, so far no serious scientific inquiry has been undertaken with a view to establishing its efficacy, safety and quality. In order to address this problem, the Government shall:

- (a) Facilitate co-operation and collaboration between and among formal and alternative health practitioners with a view to ascertaining positive traditional medical practices that might help in combating the HIV/AIDS pandemic;
- (b) Promote public awareness of known benefits and limitations of different types of alternative remedies so as to enable people make informed choices; and
- (c) Promote scientific interrogation and verification of traditional medicine and claims of successful treatment of HIV/AIDS, STIs and TB.
- (d) Facilitate enacting laws and developing regulations which shall support and promote rational and safe use of traditional/alternative remedies at all levels of health care delivery system.

## 7.5. Promotion of Appropriate Nutrition

**Objective:** To engender public awareness of the link between good nutrition and good health.

**Measures:** There is a direct correlation between good nutrition and good health. In the case of HIV, for instance, good nutrition has been found to prolong lives of patients. In order to promote good nutrition, the Government shall:

- (a) Promote and strengthen nutrition interventions as an integral element of HIV/AIDS/STI/TB treatment, care and support at all levels of the national health care system;
- (b) Support access to micronutrient supplements and nutritious food for people living with HIV and AIDS (PLWHA);
- (c) Strengthen nutrition education among PLWHA; and
- (d) Encourage fortification of staple foods with micro-nutrients.

## 7.6. Support to the Infected and Affected

**Objective:** To strengthen treatment, care and support structures for people living with HIV/AIDS.

**Measures:** Care and support for infected and affected persons help to strengthen their resolve to positively live with the pandemic. In recognition of this, the Government shall:

- (a) Ensure that the referral system adequately caters for PLWHA;
- (b) Promote and strengthen hospice services and other forms of palliative care;
- (c) Strengthen quality-nursing care and basic nursing skills of health providers, volunteers, family members and others as an essential component of PLWHA care and support;
- (d) Mainstream PLWHA, affected households and support groups in designing prevention, care and support programmes at all levels of the national health care system;

### Home based care

- (a) Actively support communities and groups engaged in home-based care;
- (b) Strengthen primary health care and social welfare systems in support of home-based care;

### Caring for Care Providers

In order to address problems experienced by care providers, government shall

- (a) Provide psycho-social support and appropriate skills to care givers
- (b) Devise strategies to address burnout syndrome and infection risks among service providers.

## 7.7. Orphans and vulnerable children

**Objective:** To strengthen care and support structures for Orphans and vulnerable children

**Measures:** Promote and support community-based care of OVCs and families looking after orphans;

- (a) Design a data capture mechanism for OVCs;
- (b) Provide guidelines for operations of orphanages and drop-in centres;
- (c) Provide psycho-social support and appropriate skills to care-givers; and
- (d) Devise strategies for addressing the burn-out syndrome and infection risks among service providers.

## 7.8. Support to High Risk and Vulnerable Groups

(Disabled groups, Commercial sex workers, prisoners, refugees and long distance truck drivers)

**Objective:** To mitigate the high risk of HIV infection common among vulnerable groups.

**Measures:** Experience demonstrates that vulnerable groups such as commercial sex workers, prisoners and long distance truck drivers face a particularly high risk of contracting the HIV virus. The Government is committed to protecting these groups from infection and shall, therefore:

### Prisoners

- (a) Provide prisoners with accurate, clear and relevant information throughout the period of detention to assist them avoid HIV/STI/TB.
- (b) Ensure that the groups have access to HIV voluntary counselling and testing on admission to custodial remand or imprisonment.
- (c) Initiate and promote detection and treatment programmes.
- (d) Strengthen measures to reduce chances of sexual abuse within the prison environment.

### Refugees

- (a) Scale-up budgetary allocations to the social sector as a way of reducing poverty and household food insecurity;

- (b) Ensure free access to HIV/AIDS/STI/TB voluntary counselling and testing (VCT) by all high risk and vulnerable groups;
- (c) Include refugees in HIV/AIDS/STI/TB interventions;
- (d) Promote abstinence for singles and fidelity for couples.

Long distance truck drivers and migrant workers

- (a) Ensure free access to HIV/AIDS voluntary counselling and testing (VCT) by all high risk and vulnerable groups;
- (b) Include migrant workers in HIV/AIDS/STI/TB interventions;
- (c) Promote abstinence for singles and fidelity for couples.
- (d) Strengthen measures to reduce chances of being involved in sexual activities
- (e) Encourage drivers and migrant workers to move with their partners (wives and husbands)

Commercial sex workers/ Prostitutes

- (a) Provide sex workers/ Prostitutes with accurate, clear and relevant information throughout the period of detention to assist them avoid HIV/STI/TB.
- (b) Promote the establishment of rehabilitation facilities for commercial sex workers;
- (c) Target clients of commercial sex workers with appropriate information and education with a view to encouraging them to take responsibility for their partners' sexual health;
- (d) Provide accurate, clear and relevant information on HIV/AIDS to all high risk and vulnerable groups;
- (e) Ensure free access to HIV/AIDS voluntary counselling and testing (VCT) by all high risk and vulnerable groups;
- (f) Promote the use of condoms by all high risk and vulnerable groups;

Disabled persons

In order to resolve the challenges associated with people with disabilities, Government shall

- (a) Ensure free access to HIV/AIDS voluntary counselling and testing (VCT) by all high risk and vulnerable groups;
- (b) Include disabled persons, displaced persons and migrant workers in its HIV/AIDS interventions; and
- (c) Promote abstinence for singles and fidelity for couples.
- (d) Integrate the HIV/AIDS/STI/TB services required by people with different abilities in the existing health and social welfare delivery systems

## CHAPTER 8

### 8.0. POLICY MEASURES FOR INSTITUTIONAL ARRANGEMENTS

#### 8.1. Strengthening the Institutional Framework

**Objective:** To establish and strengthen structures for effective coordination of multisectoral HIV/AIDS/STI/TB responses at national, provincial, district and community levels.

**Measures:** In order to strengthen structures for effective coordination of multi-sectoral responses to HIV/AIDS, STIs, TB and other opportunistic infections, the Government shall:

- (a) Adopt and effectively implement the “Three Ones” approach (i.e. one national strategic plan, one national coordinating body and one monitoring and evaluation plan);
- (b) Accord the National AIDS Council the highest political commitment and support;
- (c) Strengthen the institutional capacity of the National AIDS Council so as to enable it to effectively direct and coordinate national, provincial, district and community efforts targeted at the prevention and control of HIV/AIDS/STI/TB and
- (d) Establish or and strengthen structures for effective coordination of the multi-sectoral response at national, provincial, district and community levels.

#### 8.2. Human Resource Development and Training

**Objective:** To build capacity in human development and training in the area of HIV/AIDS/STI/TB.

**Measures:** In order to help the development of human resources in the fight against HIV/AIDS/STI/TB Government shall:

- (a) Support staff development in the area of HIV/AIDS STI and Tuberculosis
- (b) Support the training of staff in the skills of mitigating HIV/AIDS/STI/ and TB

#### 8.3. Strengthening the Legal Framework

**Objective:** To create a conducive legal framework for addressing the HIV/AIDS pandemic.

**Measures:** An enabling legal and regulatory framework is an essential element of any effective strategy for fighting HIV/AIDS, STIs, TB and other opportunistic infections. Cognisant of this fact, the Government shall:

- (a) Ensure the effective implementation, monitoring and evaluation of the HIV/AIDS/STI/TB Act; and
- (b) Amend and harmonise HIV/AIDS/STI/TB relevant pieces of legislation such as the National Health Services Act, CAP 315 and the Public Health Act, CAP 295 and the Employment Act, CAP 268.

#### 8.4. Improved Resource Mobilisation

**Objective:** To ensure availability of adequate resources for fighting against the HIV/AIDS, STIs, TB and other opportunistic infections.

**Measures:** The effective implementation of HIV/AIDS/STI/TB interventions requires adequate mobilisation and rational allocation of scarce health resources. In cognisance of this, the Government shall:

- (a) Establish a National HIV/AIDS/STI/TB Trust Fund;
- (b) Provide specific national budgetary allocations for HIV/AIDS/STI/TB interventions; and
- (c) Improve capacity for donor coordination and realignment of HIV/AIDS/STI/TB resources.

#### 8.5. Improved Programme Monitoring and Evaluation

**Objective:** To strengthen programme monitoring and Evaluation of various HIV/AIDS/STI/TB interventions.

**Measures:** Monitoring and evaluation of HIV/AIDS/STI/TB interventions are important for ensuring that interventions result in anticipated outputs and benefits reach intended beneficiaries. In order to ensure this, the Government shall:

- (a) Develop a national HIV/AIDS M&E plan to form the core of tracking the national HIV response. This will contain national indicators, data sources and information products, and will form the national reporting process on HIV interventions for the public sector, private sector and civil society institutions.
- (b) Define the roles and responsibilities of all public sector institutions, the private sector and civil society at national and district level in terms of HIV/AIDS monitoring of interventions and reporting to the HIV/AIDS coordinating body as part of a national M&E plan.
- (c) Ensure that the necessary capacity building is carried out in order to ensure that all stakeholders are able to provide the necessary information for the national M&E system.

- (d) Promote efficiency use of data and resources by making sure that indicators and sampling methodologies are comparable over time.
- (e) Ensure that the National M&E plan will be responsive to the national strategic framework and as such, review of the national M&E plan will coincide with the development/redesign of this framework
- (f) Promote the monitoring of both programme data and financial data for reporting purposes.
- (g) Ensure that guidelines for the various HIV prevention, care and support intervention areas will contain a specific section on monitoring and evaluation, with clear reporting lines to be included as part of this process.

## CHAPTER 9

### 9.0. SECTORAL RESPONSIBILITIES

The fight against the HIV/AIDS pandemic, STIs and TB is a national responsibility that should invariably involve all stakeholders. Indeed, given the complexity, multidimensional nature and incidence of the pandemic, STIs, TB and other opportunistic infections, it is inconceivable that any one facet of the Zambian society can have the capacity to effectively fight against them. While acknowledging this, it is important to also acknowledge the fact an effective onslaught on HIV/AIDS, STIs and TB will only be achieved on the back of a strong, resolute and committed political leadership. In this regard, it is expected that, although all Government Ministries will actively participate national anti-HIV/AIDS/STI/TB programmes, some of them will find themselves playing a bigger role than others on account of their broad mandates. Below is a description of the specific roles that will be expected to be played by selected line Ministries.

#### 9.1. Financial Sector

Given the enormous fiscal implications of the national fight against the HIV/AIDS pandemic, the financial sector shall be responsible for:

- (a) Providing specific budget lines for HIV/AIDS/STI/TB prevention and control;
- (b) Integration of HIV/AIDS awareness and counselling in all its in-house training programmes; and
- (c) Ensuring that HIV/AIDS is mainstreamed in all national development plans and programmes.
- (d) Spearhead resource mobilisation for HIV/AIDS/STI/TB interventions

#### I.2. Labour and Social Security and social safety net Sector

In order to effectively address outstanding issues with regard to HIV and employment, the Labour and Social Security sector shall:

- (a) Make a statutory amendment to the Employment Act, Cap 512, so as to make illegal non-voluntary HIV pre-employment screening;
- (b) Remove HIV/AIDS-related discriminatory barriers to joining any social security or pension scheme; and
- (c) Collect, coordinate and disseminate HIV/AIDS-related information in regard to employment practices and labour force trends.
- (d) Provide for social safety net to vulnerable groups like orphans, the aged, street children and the disabled.

### 9.3. Education Sector

In order to redress the HIV/AIDS challenges associated with the education sector, the Education sector shall:

- (a) Ensure that the education sector is fully transformed so as to effectively militate against the rapid spread of HIV/AIDS in the sector;
- (b) Ensure that the sector fosters and inculcates supportive behavioural change among the youth;
- (c) Strengthen functional links between the educational sector, local communities and other relevant sectors;
- (d) Support and strengthen the role of local educationists/teachers in mobilising their respective communities against HIV/AIDS;
- (e) Review and enforce penalties against school pupils, teachers and other education personnel who engage in sexual abuse of school girls;
- (f) Give priority to orphans and vulnerable children (OVCs) in awarding bursaries and scholarships;
- (g) Integrate HIV/AIDS awareness in pre-service and in-service training programmes; and
- (h) Introduce counselling in workplaces as one way of preventing HIV infection among its personnel, particularly teachers, pupils and students, and promoting positive living by those who are already infected and affected.

### 9.4. Health Sector

In order to resolve the challenges associated with the provision of health as well as enable the health sector to provide leadership in the fight against HIV/AIDS, the Health sector shall:

- (a) Ensure that the health sector attaches highest priority to HIV/AIDS prevention, care, support and treatment at all levels;
- (b) Strengthen overall capacity of the health sector to pro-actively respond to the challenges posed by HIV/AIDS;
- (c) Promote and strengthen inter-sectoral networking at national, provincial and district levels; and
- (d) Provide requisite technical backstopping to all stakeholders actively involved in the fight against the HIV/AIDS pandemic.

### 9.5. Agricultural Sector

The major portion of the Zambian population is engaged in agriculture either as a source of living or income. On its part, the agricultural sector employs hundreds upon hundreds of individuals some of whom are in the remotest parts of the country. In order to address the numerous health challenges associated with the sector, the agricultural sector shall:

- (a) Promote the mainstreaming of HIV/AIDS in agricultural programme planning;

- (b) Utilise its extensive agricultural extension network for purposes of HIV/AIDS prevention and support;
- (c) Ensure that systematic efforts in support of improved national and household food security and nutritional standards for low-income groups are initiated and promoted;
- (d) Promote the empowerment of rural women in order to reduce the negative impact of HIV/AIDS on production levels;
- (e) Provide skills training facilities to PLWHAs as a means of ensuring their participation in HIV/AIDS prevention and care programmes; and
- (f) Provide targeted food support as a component of HIV/AIDS care and support to families in need.

## 9.6. Sport, Youth and Child Development Sector

The incidence of HIV infections is particularly acute among the youth and adolescent population. As the line Ministry responsible for youth development shall:

- (a) Strengthen human and organisational capacity within key agencies of the Government and communities in support of initiatives targeted at combating the spread of HIV/AIDS among children and youth;
- (b) Mobilise resources for targeted programmes against the spread of HIV/AIDS among children and youth in the country;
- (c) In conjunction with the Ministry of Justice (MoJ), formulate a more progressive penal code relating to sexual abuse of children;
- (d) Develop mechanisms for protecting children against the effects of harmful practices and values that may subject them to dangers of HIV/AIDS;
- (e) Systematically use sports as a conduit for HIV/AIDS social mobilisation and awareness creation; and
- (f) Raise awareness of the dangers of drug and alcohol abuse.

## 9.7. Communications and Transport Sector

It is now common knowledge that social mobility, such as among long distance truck drivers and cross-border traders, is among the major vectors for HIV transmission. Mobility and transportation can, however, be positively employed to sensitise the public to the dangers of contracting HIV/AIDS and the Ministry responsible for Communications and Transport is suitably placed to provide the requisite leadership. In this regard, the Ministry shall:

- (a) Produce and provide HIV/AIDS/STIs/TB information, education and communication (IEC) materials for display on public conveyances such as buses and trains, including stadia and other sports facilities. It will also lobby for the imprinting of HIV/AIDS/STI/TB messages on utility bills (telephones, power, water, etc), electronic messages, stamps and other media and channels;
- (b) Support and encourage the marketing of condoms at railway stations, inter-city bus stations, Post Office counters and boarder and transit points; and

- (c)** Encourage the private transport sector to mainstream HIV/AIDS in their business plans.

## 9.8. Tourism Sector

The tourism sector is characterised by high mobility of people who come to Zambia to view its natural attractions. It is probable, therefore, that the rate of HIV infection might be high as tourists travel up and down the country. In order to contribute to the national fight against the rapid spread of HIV/AIDS in the tourism sector, the Ministry responsible for Tourism shall:

- (a) Provide HIV/AIDS education to its employees, including those in Forestry and Wildlife Departments;
- (b) Support efforts aimed at finding alternative remedies for dealing with HIV/AIDS-related conditions;
- (c) Integrate HIV/AIDS topics into forestry and wildlife syllabi;
- (d) Investigate environmentally-friendly means of disposing condoms, syringes, razor blades and other sharp instruments that may contribute to the spread of HIV;
- (e) Ensure that all tourist operators and the hospitality industry incorporate HIV/AIDS prevention information in staff training programmes and in information packages offered to clients and patrons;
- (f) Owners of hotels, motels, lodges, camping sites and other tourist facilities mainstream HIV/AIDS in the business promotion programmes; and
- (g) Ensure that a person's HIV/AIDS status is not a criterion for admission to or accessing tourism services.

## 9.9. Information and Broadcasting Sector

The Ministry responsible for Information and Broadcasting Services is the official Government mouthpiece and, as such, plays a pivotal role in transmitting official positions on national issues. In this regard, the Ministry shall:

- (a) Ensure that it effectively utilises the public print and electronic media to disseminate HIV/AIDS/STI/TB messages and information to the general public;
- (b) In conjunction with the Ministry of Health, provide relevant HIV/AIDS/STI/TB information, education and communication (IEC) materials, including counselling services to other line Ministries and departments; and
- (c)** Integrate HIV/AIDS education in journalism and broadcasting courses.

## 9.10. Governance and Justice Sector

Like is the standard elsewhere in the world, the Zambian Cabinet is responsible for national policy formulation and implementation. Given this understanding, the Cabinet Office is expected to provide the requisite policy direction to the national fight against HIV/AIDS/STI/TB. In doing, this, it shall:

- (a) Establish a mechanism for monitoring and evaluation of the implementation and impact of HIV/AIDS/STI/TB interventions by all line Ministries and other stakeholders;
- (b) Develop strategies for the care and support of public service workers infected and affected by HIV/AIDS within the broad framework of the Public Service Reform Programme (PSRP);
- (c) Integrate HIV/AIDS information, education and communication into curricula of public service training institutions such as the National Institute for Public Administration (NIPA) and National In-Service Training College (NISTC); and
- (d) Closely work with and support the National HIV/AIDS/STI/TB Council.
- (e) Support changes in pieces of legislation that disadvantage HIV infected and affected persons and that encourage stigma and discrimination;

## 9.11. Defence and Security Sector

Security and defence forces are highly mobile in the discharge of their daily calls of duty. Their mobility exposes them to the risk of contracting HIV/AIDS, STIs, TB and other opportunistic infections. In order to militate against the high risk of infection associated with the high mobility of security and defence forces, the Ministry responsible for Defence and security shall:

- (a) Ensure that it plays a more pro-active role in HIV/AIDS/STI/TB prevention, care, treatment and support;
- (b) Integrate HIV/AIDS education in all military training curricula;
- (c) Provide enhanced counselling services and peer education programmes in all military bases;
- (d) Provide VCT services in all military hospitals;
- (e) Ensure that defence personnel on deployment in and outside the country are provided with the necessary information and means to guard themselves against HIV/AIDS, STIs, TB and other opportunistic infections;

## 9.12 Home Affairs

The sector is responsible for staff (uniformed and non uniformed officers) and groups (refugees, displaced communities) who are highly mobile in the discharge of their daily calls of duty and daily dealings. Their mobility exposes them to the risk of contracting HIV/AIDS, STIs, TB and other opportunistic infections. In order to militate against the high risk of infection associated with the high mobility of these groups, the Ministry responsible for Home Affairs shall:

- (a) Ensure law enforcement
- (b) Ensure that it plays a more pro-active role in HIV/AIDS/STI/TB prevention, care, treatment and support;
- (c) Integrate HIV/AIDS education in all military training curricula;
- (d) Provide enhanced counselling services and peer education programmes in all military bases;
- (e) Provide VCT services in all military hospitals;
- (f) Ensure that defence personnel on deployment in and outside the country are provided with the necessary information and means to guard themselves against HIV/AIDS, STIs, TB and other opportunistic infections;

## 9.13 Private, Construction and industry Sector

In order to contribute to the national fight against the rapid spread of HIV/AIDS in the Private, construction and industry sector, the Ministry responsible for Private Construction and industry sector shall:

- (a) Provide HIV/AIDS education to its employees, including those in the mining and private sector.
- (b) Support efforts aimed at finding alternative remedies for dealing with HIV/AIDS-related conditions;
- (c) Integrate HIV/AIDS topics into construction and Mining syllabi;
- (d) Ensure that all Private, construction and mining companies incorporate HIV/AIDS prevention information in staff training programmes and in information packages offered to surrounding communities and workers;

## 9.14. National HIV/AIDS/STI/TB Council

An effective response to the HIV/AIDS epidemic requires a partnership approach, involving government Ministries, local and international NGOs, CBOs, religious organisations, the private sector, UN agencies and bilateral donors. This partnership approach requires effective coordination of the policies and activities in each of these different sectors in order to ensure complimentarity in activities and avoid the inefficient use of limited financial and human resources. In order to coordinate and support the development, monitoring and evaluation of the multi-sectoral national response for the prevention and combating of the spread of HIV, AIDS, STI and TB in order to reduce the personal, social and economic impacts of HIV, AIDS, STI and TB, the National HIV/AIDS Council shall:

- (a) Support the development and coordination of policies, plans and strategies for the prevention and combating of HIV, AIDS, STI and TB;
- (b) Advise the Government, health institutions and other organizations on the policies, strategies and plans to prevent and combat HIV, AIDS, STI and TB;
- (c) Advise the Government, health institutions and other organizations on the policies, strategies and plans to prevent and combat HIV, AIDS, STI and TB;
- (d) Ensure the provision and dissemination of information and education on HIV, AIDS, STI and TB;
- (e) Develop a national HIV, AIDS, STI and TB research agenda and strategic plan which shall include the quest for a cure for HIV, AIDS as one of the research priorities;
- (f) Support programmes relating to prevention, care, and treatment of HIV, AIDS, STI and TB;
- (g) Mobilize resources to promote and support identified priority interventions including research in areas related to HIV, AIDS, STI and TB;
- (h) Provide technical support and guidelines to health and other institutions involved in the: -
  - (i) Prevention and treatment of HIV, AIDS, STI and TB; and
  - (j) Care and support of persons infected with or affected by HIV, AIDS, STI and TB;
- (k) Collaborate with other research institutions in relation to HIV, AIDS, STI and TB; and

## CHAPTER 10

### 10.0. IMPLEMENTATION ARRANGEMENTS

#### 10.1. Operationalisation of the Policy

The Policy will be operationalized through the development and implementation of a National HIV/AIDS/STI/TB Strategic Plan. Sectoral, thematic and institutional action plans on HIV/AIDS/STI/TB will also form part of the policy operationalization process.

#### 10.2. Responsibility for Policy Implementation

The Ministry of Health shall be responsible for the implementation of the policy. The various sectoral Ministries, non-governmental organisations, community-based organisations and the private sector will be required to play their respective roles.

#### 10.3. Monitoring and Evaluation

The Cabinet, through Ministry of Health in conjunction with the National AIDS Council (NAC), will be in charge of the overall monitoring and evaluation of this Policy based on the Implementation, Monitoring and Evaluation. Periodic reviews of the Policy will be instituted as and when required.

#### 10.4. Resource Mobilisation

The implementation of national and sectoral HIV/AIDS/STI/TB interventions has heavy financial implications. In order to meet the more than normal budgetary demands that the implementation of this Policy will require, Government will need to scale up its domestic and international resource mobilisation. In this regard the government shall:

- (a) Establish the National HIV Trust Fund
- (b) Make annual allocations in the National Budget
- (c) Raise funds from other sources including bilateral, multilateral cooperating partners and other stakeholders
- (d) Train and retain health professionals.

## **Appendix 7: News Articles on National REC**

### **Research ethics 'watchdog' planned in Zambia**

Talent Ngandwe

1 February 2005 | EN

[LUSAKA] Zambia is to set up an independent national committee to monitor the ethics of health research, and to protect the rights, health and safety of participants in clinical trials of potential drugs.

Announcing the plans at the opening of the national health research conference in Lusaka last month (January 20-22), Zambia's health minister Brian Chituwo said that for some health studies undertaken in Zambia, researchers have been able to avoid assessment of research ethics.

The committee, to be set up this year, will be made up of both scientists and non-scientists, whose appointment will be decided by the ministry of justice. It will review the ethics of all research undertaken in the country.

According to the Chituwo, research should be guided by some fundamental moral commitments: the sustainable improvement in human welfare through the expansion of scientific knowledge, the understanding of disease patterns and changing human conditions and the protection of health and dignity of research trial participants.

He expressed concern at the inadequate coverage of research ethics in the basic training of medical students and other health providers, and appealed to the institutions responsible to remedy this situation.

Scientists at the conference welcomed the decision to set up an independent committee, which could replace two existing ethics review committees at the University of Zambia and at the Tropical Disease Research Centre. These operate according to the guidelines and procedures of the institutions they are based at.

The ministry of justice will decide whether the new committee will supplant the existing ones entirely — which would mean disbanding them — or whether they will operate in parallel.

The creation of the new committee is timely, says Joseph Mtetwa, head of health systems research at the Tropical Disease Research Centre. He told SciDev.Net that, "fabrication, falsification and plagiarism of data in health research is rampant in Zambia," but did not want to give any examples for fear of victimisation.

He said the ethics committee should be free from political interference and conflict of interest, and should provide independent, competent and timely review of proposed studies.

Mtetwa also said the committee should ensure that research goals, no matter how important, are never allowed to override the health and wellbeing of research participants. Misconduct observed by the ethics committee, he added, should result in a fine or discontinuation of the project, and if necessary, the researchers involved should be forbidden from conducting further studies.

### Establishment of a National Health Research Ethics Committee in Zambia

**T**he Zambian health care system has been undergoing health reform since 1996. The vision of the Zambian health reform process was to provide Zambians with equity of access to high quality, cost-effective health care as close to the family as possible. With the restructuring of the Ministry of Health came the creation of an independent implementation agency for the Ministry, the Central Board of Health (CBoH). The CBoH, headed by a Director General, runs its health care delivery functions in the country through four directorates: Public Health and Research; Technical Support Services; Clinical Care and Diagnostic Services, and Health Services Planning and Management.

The CBoH's concern for research ethics has been sparked by some unfortunate ethical issues that have been witnessed in Zambia and the rise in miscommunications that occur during recruitment for research studies. It is committed to restoring the integrity of health related research studies by ensuring that the studies provide useful knowledge that will improve human welfare.

It was therefore, encouraging when the Minister of Health reiterated these facts during his official address to the third National Health Research Conference held at the Mulungushi International Conference Centre in Lusaka from 20<sup>th</sup> to 22<sup>nd</sup> January 2005. During his address, he stressed that health research should be guided by two fundamental moral commitments. These are sustainable improvement in human welfare through expansion of frontiers of scientific knowledge and understanding of disease patterns and changing human conditions; and protection of the dignity and health interests of participants as subjects of research programs. In recognition of this, the Ministry planned to establish a National Health Research Ethics Committee (NHREC). It is expected that once this committee is in place, the many challenges related to regulation, coordination and monitoring of research ethics in Zambia will be a thing of the past.

The Minister of Health recognized the fact that although there were already in existence two Ethics Review Committees under the University of Zambia and the Tropical Diseases Research Centre, they operated under guidelines and standard operating procedures of their respective institutional authorities and therefore, could not be designated as national research ethics committees. The lack of a national research ethics committee meant that some health research work does not

*(continued on page 3)*

**CHAPTER 301**  
**THE TROPICAL DISEASES RESEARCH CENTRE ACT**

**ARRANGEMENT OF SECTIONS**

**PART I**  
**PRELIMINARY**

Section

1. Short title
2. Interpretation

**PART II**  
**TROPICAL DISEASES RESEARCH CENTRE**

3. Tropical Disease Research Centre
4. Establishment of Board
5. Composition of Board
6. Functions of Board
7. Proceedings of Board
8. Seal of Board
9. Committees of Board
10. Disclosure of interest
11. Immunity of members

## **PART III ADMINISTRATION**

12. Director and Deputy Director
13. Secretary and other staff
14. Rights of Board in discoveries by its employees, etc.
15. Prohibition of publication or disclosure of information to unauthorised persons

## **PART IV FINANCIAL AND OTHER PROVISIONS**

### Section

16. Funds of Board
17. Financial year
18. Accounts
19. Annual report
20. Regulations

## **CHAPTER 301**

TROPICAL DISEASES RESEARCH  
CENTRE

*Act No.*  
*31 of 1982*  
*13 of 1994*

An Act to constitute the Tropical Diseases Research Centre; to establish the Tropical Diseases Research Board; to define the functions and powers of the Board, and to provide for matters connected with or incidental to the foregoing

[*1st April, 1984*]

## **PART I**

### **PRELIMINARY**

1. This Act may be cited as the Tropical Diseases Research Centre Act. Short title  
The Minister, under Statutory Instrument No. 39 of 1984 appointed 1st April, 1984 as the date on which this Act comes into operation. The Minister may, by statutory instrument appoint:

2. In this Act, unless the context otherwise requires- Interpretation

"Board" means the Tropical Diseases Research Board established by section *four*;

"Centre" means the Tropical Diseases Research Centre constituted under section *three*;

"Chairman" means the person designated Chairman of the Board by section *five*;

"Deputy Director" means the person appointed Deputy Director of the Board under section *twelve*;

"Director" means the person appointed Director of the Board under section *twelve*;

"member" means a member of the Board;

"Secretary" means the person appointed Secretary of the Board under

section *thirteen*;

"Vice-Chairman" means the person designated Vice-Chairman of the Board under section *five*.

## PART II

### TROPICAL DISEASES RESEARCH CENTRE

- |   |   |
|---|---|
| <p>3. (1) There is hereby constituted the Tropical Diseases Research Centre for the purposes of conducting research and training in tropical diseases and related matters.</p> <p>(2) The Board may establish such number of branches of the Centre as it thinks necessary.</p> <p>4. There is hereby established the Tropical Diseases Research Board which shall be a body corporate with perpetual succession and a common seal, capable of suing and of being sued in its corporate name, and with power, subject to the provisions of this Act, to do all such acts and things as a body corporate may by law do or perform.</p> <p>5. (1) The Board shall consist of the following members:</p> <ul style="list-style-type: none"> <li>(a) the Director of Medical Services, who shall be the Chairman;</li> <li>(b) the Permanent Secretary of the Province in which the Centre is located;</li> <li>(c) the Secretary-General of the National Council for Scientific Research;</li> <li>(d) the Dean of the School of Medicine of the University of Zambia;</li> <li>(e) the administrative head of the Central Hospital nearest the Centre;</li> </ul> | <p>Tropical<br/>Diseases<br/>Research<br/>Centre</p> <p>Establishment<br/>of Board</p> <p>Composition o<br/>Board</p> |
|---|---|

- (f) the Director of Veterinary Services;
  - (g) a representative of the World Health Organisation; and
  - (h) two persons appointed by the Minister.
- (2) There shall be a Vice-Chairman elected by the Board.
- (3) A member appointed under paragraph (h) of subsection (1) shall hold office for three years, but shall be eligible for reappointment:

Provided that any such member may resign upon giving one month's notice in writing to the Minister and may be removed by the Minister at any time.

- |  |                       |
|--|-----------------------|
| 6. (1) The functions of the Board shall be to conduct research and training in tropical diseases and to do all such acts and things as are necessary for or conducive to the attainment of that purpose.   | Functions of<br>Board |
| <p>(2) Without prejudice to the generality of subsection (1), the Board may-</p> <ul style="list-style-type: none"><li>(a) formulate plans and policies for the Centre;</li><li>(b) conduct research and develop research methodologies;</li><li>(c) support research programmes relating to disease control and primary health care;</li><li>(d) train scientists in research related to tropical diseases;</li><li>(e) provide facilities for international research and training;</li><li>(f) liaise with other scientific bodies within and outside Zambia;</li><li>(g) collect and disseminate scientific information including the</li></ul> |                       |

publication of scientific reports, journals and other such documents and literature relating to the work of the Centre.

(3) The Board may by directions in writing and subject to such terms and conditions as it thinks fit, delegate to the Director, Deputy Director, any member or the Secretary any of its functions under this Act.

(4) The Minister may give to the Board such general or specific directions with respect to the discharge of its functions as he may consider necessary and the Board shall give effect to such directions.

7. (1) Subject to the other provisions of this Act, the Board may regulate its own procedure.

Proceedings of  
Board

(2) The Board shall meet for the transaction of business at least once every twelve months at such places and at such times as the Chairman may decide.

(3) Upon giving notice of not less than fourteen days a meeting of the Board may be called by the Chairman and shall be called if not less than five members so request in writing:

Provided that if the urgency of any particular matter does not permit the giving of such notice, a special meeting may be called upon giving a shorter notice.

(4) Five members shall form a quorum at any meeting of the Board.

(5) There shall preside at any meeting of the Board-

(a) the Chairman; or

(b) in the absence of the Chairman, the Vice-Chairman; or

(c) in the absence of the Chairman and the Vice-Chairman, such member as the members present may elect for the purpose of that meeting.

(6) A decision of the Board on any question shall be by a majority of the members present and voting at the meeting and, in the event of an equality of votes, the person presiding at the meeting shall have a casting vote in addition to his deliberative vote.

(7) Where any member referred to in paragraphs (a) to (g) of subsection (1) of section *four* is for any reasonable cause unable to attend any meeting of the Board, his Ministry or organisation, as the case may be, may, in writing, nominate another person to attend such meeting in his stead and such person shall be deemed to be a member for the purpose of such meeting.

(8) The Board may invite any person, whose presence is in its opinion desirable, to attend and to participate in the deliberations of a meeting of the Board but such person shall have no vote.

(9) The validity of any proceedings, act or decision of the Board shall not be affected by any vacancy in the membership of the Board or by any defect in the appointment of any member or by reason that any person not entitled so to do took part in the proceedings.

(10) The Board shall cause minutes to be kept of the proceedings of every meeting of the Board and of every meeting of any committee established by the Board.

8. (1) The seal of the Board shall be such device as may be determined Seal of Board by the Board and shall be kept by the Secretary.

(2) The Board may use a wafer or rubber stamp *in lieu* of the seal.

(3) The affixing of the seal shall be authenticated by the Chairman or the Vice-Chairman, and the Secretary or one other person authorised in that behalf by a resolution of the Board.

(4) Any contract or instrument which, if entered into or executed by a person not being a body corporate, would not be required to be under seal, may be entered into or executed without seal on behalf of the Board

by the Secretary or any other person generally or specifically authorised by the Board in that behalf.

(5) Any document purporting to be a document under the seal of the Board or issued on behalf of the Board shall be received in evidence and shall be deemed so executed or issued, as the case may be, without further proof, unless the contrary is proved.

**9.** (1) The Board may, for the purpose of performing its functions under this Act, establish committees and delegate to any such committee such Committees of Board of its functions as it thinks fit.

(2) The Board may appoint as members of a committee established under subsection (1), persons who are or are not members of the Board and such persons shall hold office for such period as the Board may determine.

(3) Subject to any specific or general direction of the Board any committee established under subsection (1) may regulate its own procedure.

**10.** (1) If a person is present at a meeting of the Board or any committee of the Board at which any matter is the subject of consideration and in which matter such person or his spouse is directly or indirectly interested in a private capacity, he shall, as soon as practicable after the commencement of the meeting, disclose such interest and shall not, unless the Board otherwise directs, take part in any consideration or discussion of, or vote on, any question touching such matter.

(2) A disclosure of interest made under this section shall be recorded in the minutes of the meeting at which it is made.

**11.** No action or other proceedings shall lie or be instituted against any member for or in respect of any act or thing done or omitted to be done in good faith in the exercise or purported exercise of his functions under this Act.

Immunity of members

## **PART III**

### **ADMINISTRATION**

**12.** (1) The Board shall appoint, on such terms and conditions as it may determine, a Director who shall be the chief executive officer of the Board and who, subject to the control of the Board, shall be responsible for the administration of the Centre. Director and Deputy Director

(2) The Board may appoint, on such terms and conditions as it may determine, a Deputy Director to assist the Director.

(3) The Director, or in his absence the Deputy Director, shall attend meetings of the Board and may address such meetings, but shall not vote on any matter:

Provided that the person presiding at any meeting of the Board may, for good cause, require the Director or Deputy Director, as the case may be, to withdraw from such meeting.

(4) The provisions of section *ten* shall apply, *mutatis mutandis*, to the Director and the Deputy Director.

**13.** (1) There shall be a Secretary of the Board who shall be appointed by the Board on such terms and conditions as the Board may determine. Secretary and other staff

(2) The Secretary shall be responsible for the administration of the day-to-day affairs of the Board under the general supervision of the Director.

(3) The Board may appoint, on such terms and conditions as it may determine, such other staff as it considers necessary for the performance of its functions under this Act.

**14.** Where in the course of his duties an employee of the Board makes any discovery, invention or improvement, the Board shall be deemed to Rights of Board in discoveries

be the owner for all purposes of the rights therein. by its  
employees, etc.

**15.** (1) No person shall, without the consent in writing given by or on behalf of the Board, publish or disclose to any person, otherwise than in the course of his duties, the contents of any document, communication or information whatsoever, which relates to, and which has come to his knowledge in the course of, his duties under this Act.

Prohibition of publication or disclosure of information to unauthorised persons

(2) Any person who knowingly contravenes the provisions of subsection (1) shall be guilty of an offence and shall be liable, upon conviction, to a fine not exceeding twelve thousand five hundred penalty units or to imprisonment for a term not exceeding three years, or to both.

(3) If any person having information which to his knowledge has been published or disclosed in contravention of subsection (1) unlawfully publishes or communicates any such information to any other person, he shall be guilty of an offence and shall be liable, upon conviction, to a fine not exceeding twelve thousand five hundred penalty units or to imprisonment for a term not exceeding three years, or to both.

*(As amended by Act No. 13 of 1994)*

#### **PART IV FINANCIAL AND OTHER PROVISIONS**

**16.** (1) The funds of the Board shall consist of such moneys as may- Funds of Board

- (a) be appropriated by Parliament for the purposes of the Board;
- (b) be paid to the Board by way of grants or donations; and
- (c) vest in or accrue to the Board.

(2) The Board may-

- (a) accept moneys by way of grants or donations from any source in Zambia and, subject to the approval of the Minister, from any source

outside Zambia;

(b) subject to the approval of the Minister, raise by way of loans or otherwise, such moneys as it may require for the discharge of its functions; and

(c) charge and collect fees in respect of programmes, seminars, consultancy services, and other services provided by the Board.

(3) There shall be paid from the funds of the Board-

(a) the salaries, allowances and loans of the staff of the Board;

(b) such reasonable travelling, transport and subsistence allowances for members of any committee of the Board when engaged on the business of the Board, at such rates as the Minister may determine; and

(c) any other expenses incurred by the Board in the performance of its functions.

(4) The Board may invest in such manner as it thinks fit such of its funds as it does not immediately require for the performance of its functions.

17. The financial year of the Board shall be the period of twelve months Financial year ending on the 31st December in each year.

18. The Board shall cause to be kept proper books of accounts and other records relating to its accounts. Accounts

19. (1) As soon as practicable, but not later than six months after the expiry of each financial year, the Board shall submit to the Minister a report concerning its activities during such financial year. Annual report

(2) The report referred to in subsection (1) shall include information on the financial affairs of the Board and there shall be appended thereto-

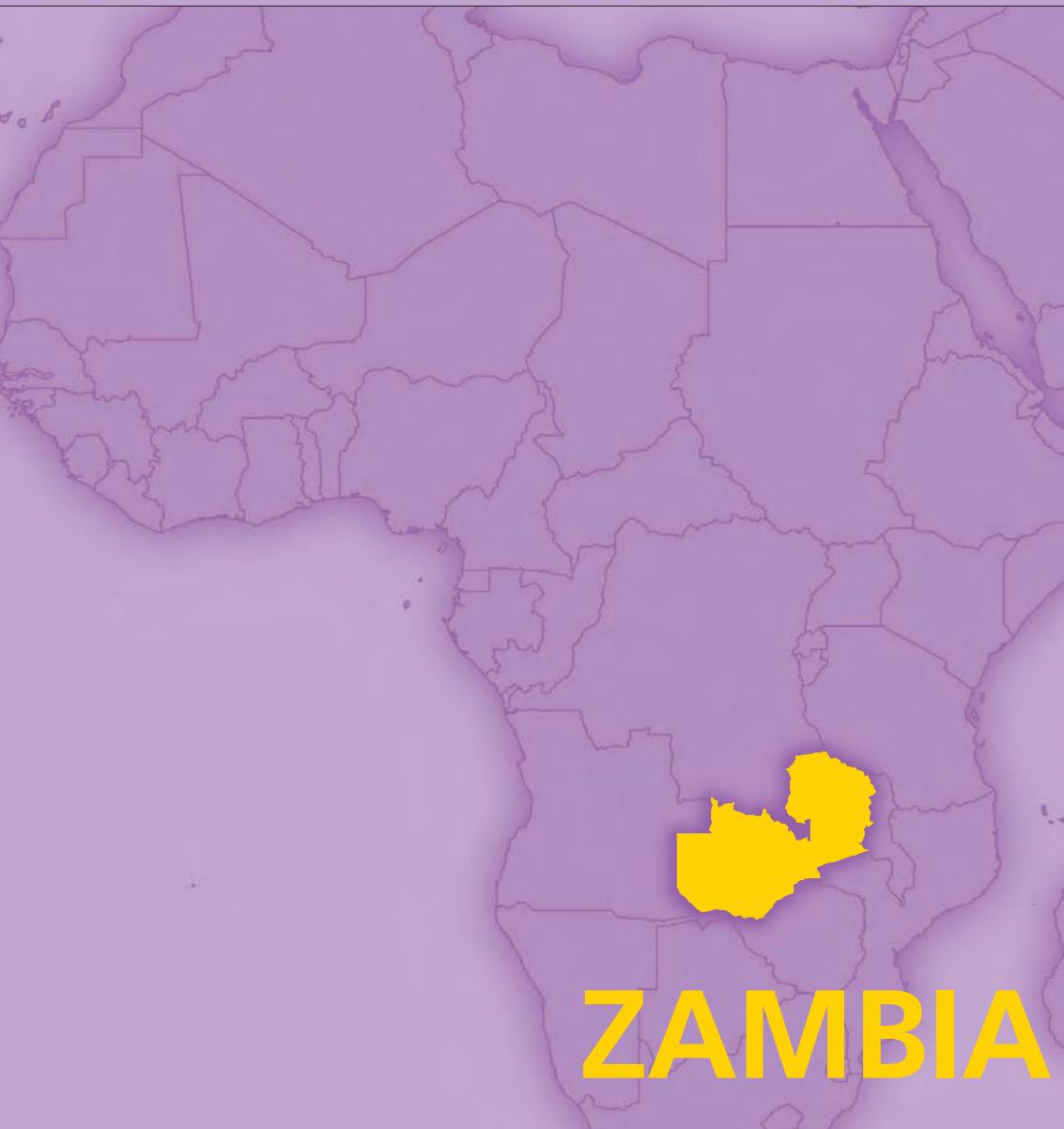
(a) a balance sheet;

(b) an audited statement of income and expenditure; and

(c) such other information as the Minister may require.

(3) The Minister shall, not later than seven days after the first sitting of the National Assembly next after the receipt of the report referred to in subsection (1), lay it before the National Assembly.

**20.** The Minister may, by statutory instrument, make regulations for Regulations the better carrying out of the purposes of this Act.



**COUNTRY REPORT  
2008**

**Five partner  
countries and  
eight donor  
countries**

Burkina Faso  
Cameroon  
Mozambique  
Uganda  
Zambia

Canada  
Denmark  
Ireland  
the Netherlands  
Norway  
Sweden  
Switzerland  
United Kingdom

# ZAMBIA

## Alignment and Harmonization in Health Research

AHA Study



# ZAMBIA

## Alignment and Harmonization in Health Research

### AHA Study

Five partner countries and eight donor countries

Burkina Faso  
Cameroon  
Mozambique  
Uganda  
Zambia

Canada  
Denmark  
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the Netherlands  
Norway  
Sweden  
Switzerland  
United Kingdom

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## Acknowledgements

This report was prepared by COHRED as a part of its Alignment and Harmonization Study (AHA), under the **Health Research Web** Programme.

The AHA study involves five African countries (Burkina Faso, Cameroon, Mozambique, Uganda and Zambia) and eight donor countries (Canada, Denmark, Ireland, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom).

The study aims to:

- 1) Provide information on National Health Research Systems (NHRs) of the five African countries; outline strategies for health research funding of the eight donor countries; and discuss alignment and harmonization in relation to health research support.
- 2) Facilitate debate between partners on improving health research support towards national priorities.

The information collected is also published on the **AHA webpage** (<http://www.cohred.org/AHA/>) and **Health Research Web** ([www.cohred.org/healthresearchweb](http://www.cohred.org/healthresearchweb)).

A special thanks goes to all partners from the five African countries and the eight donor countries for their support in compiling the information included in this report.

### **AHA Project team**

Carel IJsselmuiden, Director COHRED and project leader; Sylvia de Haan, Head Projects and Programmes, COHRED; Sandrine Lo Iacono, Project Officer, COHRED.

In collaboration with partners, country surveys were conducted by Sandrine Lo Iacono for Burkina Faso, Cameroon, Mozambique and Uganda; Caroline Nyamai Kisia for Uganda and Zambia; Hashim Moomal and Cristiano Matshine for Mozambique.

Editorial support was provided by Colleen Smith.

Financial support for the entire project was provided by Sida / SAREC.

### **Key Words:**

Alignment and harmonization, national health research systems, Burkina Faso, Cameroon, Mozambique, Uganda, Zambia, Canada, Denmark, Ireland, the Netherlands, Norway, Sweden, Switzerland, United Kingdom, Paris declaration on aid effectiveness, investment in research

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# Table of contents

List of abbreviations	4
Executive summary	8
<b>1. Introduction</b>	<b>10</b>
<b>2. Methods</b>	<b>12</b>
<b>3. National Health Research System in Zambia</b>	<b>13</b>
3.1 NHRS governance and management	13
3.2. Health research legislation and policies	16
3.3. National health research priorities	17
3.4. Health research financing	18
3.5. Human resources for health research	18
3.6. Health research institutions	19
3.7. Organized civil society in health research	22
3.8. Regional organizations and networks	24
3.9. Dissemination of research findings	24
3.10 Ethics	25
<b>4. Health research donors in Zambia</b>	<b>26</b>
<b>5. Adherence to the Paris Declaration on Aid Effectiveness in relation to health research support</b>	<b>27</b>
5.1. The Paris Declaration on Aid Effectiveness	27
5.2. Ownership	28
5.3. Alignment	29
5.4. Harmonization	29
5.5. Managing for results	30
5.6. Mutual accountability	30
<b>6. Conclusion</b>	<b>31</b>
Bibliography and websites	32
Annex 1: List of stakeholders interviewed	33
Annex 2: List of projects financed by donors involved in the AHA study	34
Annex 3: NHRS framework	35

## List of abbreviations

ABSP:	Association Burkinabaise de Santé Publique (Burkinabé Public Health Association), Burkina Faso
ADB:	African Development Bank
AHA study:	Alignment and Harmonization study
AHSRP:	Annual Health Sector Performance Report
ANRS:	Agence Nationale de Recherche sur le SIDA (National Agency for Research on AIDS), France
ANVAR:	Agence Nationale pour la Valorisation des Résultats de la Recherche (National Agency for Research Utilization), Burkina Faso
AU:	African Union
CAMES:	Conseil Africain et Malgache pour l'Enseignement Supérieur, (African and Malagasy Council for Higher Education), Burkina Faso
CCGHR:	Canadian Coalition for Global Health Research
CCRS:	Conseil des Centres de Recherche en Santé (Council of Health Research Centres), Burkina Faso
CDC:	Centers for Diseases Control and Prevention, USA
CHESSORE:	Centre for Health Science and Social Research, Zambia
CIDA:	Canadian International Development Agency, Canada
CIFRA:	Centre International de Formation en Recherche-Action (International Centre for Training and Action Research), Burkina Faso
CIRCB:	Centre International de Recherche Chantal Biya sur le VIH / SIDA (International Research Center Chantal Biya on HIV / AIDS), Cameroon
CNLAT:	Centre National de Lutte Anti-Tuberculeux (National Centre for the fight against Tuberculosis), Burkina Faso
CNRFP:	Centre National de Recherche et de Formation sur le Paludisme (National Centre for Research and Training for Malaria), Burkina Faso
CNRST:	Centre National de Recherche Scientifique et Technique (National Centre for Scientific and Technological Research), Burkina Faso
COHRED:	Council on Health Research for Development, Switzerland
CSLP:	Cadre Stratégique de Lutte contre la Pauvreté (National Strategic Framework for the fight against Poverty), Burkina Faso
CSO:	Civil Society Organization
CSSM:	Civil Society Support Mechanism, Mozambique
DAC:	Development Assistance Committee
Danida:	Danish International Development Agency, Denmark
DDHS:	Director District Health Services, Uganda
DEP:	Direction des Etudes et de la Planification (Department for Studies and Planning), Burkina Faso
DFID:	Department for International Development, United Kingdom
DGIS:	Directorate General for International Cooperation, Ministry of Foreign Affairs, the Netherlands
DROS:	Division de la Recherche Opérationnelle en Santé (Division for Health Operations Research), Cameroon
DSF:	Direction de la Santé de la Famille (Department of Family Health), Burkina Faso
EAC:	East African Community
EDCTP:	European and Developing Countries Clinical Trials Partnership, the Netherlands
ENHR:	Essential National Health Research
EQUINET:	Regional Network on Equity in Health in Southern Africa, Zimbabwe

EU:	European Union
EVIPNet:	Evidence-Informed Policy Network, WHO
FARES:	Fonds d'Appui à la Recherche en Santé (Fund for Health Research Support), Burkina Faso
FESADE:	Femmes, Santé et Développement (Women, Health and Development), Cameroon
FPAE:	Fondation Paul Ango Ela pour la Géopolitique en Afrique Centrale (Foundation Paul Ango Ela for Geopolitics, Central Africa)
FRSIT:	Forum sur la Recherche Scientifique et les Innovations Technologiques (Forum for Scientific Research and Technological Innovations), Burkina Faso
GAVI:	Global Alliance for Vaccines and Immunization
GEGA:	Global Equity Gauge Alliance
GLOBVAC:	Global Health and Vaccination Research, Norway
GTZ:	Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation), Germany
HDPs:	Health Development Partners, Uganda
HIPC:	Heavily Indebted Poor Countries Initiative
HIV /AIDS:	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
HPAC:	Health Policy Advisory Committee, Uganda
HR-HR:	Human Resources for Health Research
HSSP:	Health Sector Strategic Plan, Uganda
IAVI:	International AIDS Vaccine Initiative
IDRC:	International Development Research Centre, Canada
IMF:	International Monetary Fund
IMPM:	Institut National de Recherche Médicale et d'Etude des Plantes Médicinales (Institute of Medical Research and Studies on Medicinal Plants), Cameroon
INASP:	International Network for the Availability of Scientific Publications, United Kingdom
INDEPTH:	International Network of field sites with continuous Demographic Evaluation of Populations and Their Health in developing countries
INE:	Instituto Nacional de Estatística (National Institute of Statistics), Mozambique
INERA:	Institut National d'Etude et de Recherche Agricole (National Institute for Agricultural Research), Burkina Faso
INESOR:	Institute of Economic and Social Research, Zambia
INS:	Instituto Nacional de Saúde (National Institute of Health), Mozambique
INSS:	Institut National des Sciences de la Société (National Institute for Society Sciences), Burkina Faso
ITNs:	Insecticide treated bednets
IRD:	Institut de Recherche pour le Développement (Research Institute for Development), France
IRESKO:	Institut pour la Recherche, le Développement Socio-Economique et la Communication (Institute for Research, Socio-Economic Development and Communication), Cameroon
IRSAT:	Institut de Recherches en Sciences Appliquées et Technologies (Institute for Applied Research and Technologies), Burkina Faso
IRSS:	Institut de Recherche en Sciences de la Santé (Institute for Health Sciences), Burkina Faso
ISSP:	Institut Supérieur des Sciences de la Population (Higher Institute for Population Sciences), Burkina Faso
JASZ:	Joint Country Assistance Strategy for Zambia
JRM:	Joint Review Mission, Uganda
JSSB:	Journées des Sciences de la Santé de Bobo-Dioulasso (Health Sciences days of Bobo-Dioulasso), Burkina Faso
MACHA:	Malaria Research Institute, Zambia

MCT:	Ministry of Science and Technology, Mozambique
MDGs:	Millennium Development Goals
MESSRS:	Ministère des Enseignements Secondaire, Supérieur et de la Recherche Scientifique (Ministry of Secondary and Higher Education and Scientific Research), Burkina Faso
MFPED:	Ministry of Finance, Planning and Economic Development, Uganda
MINEFI:	Ministère de l'Economie et des Finances (Ministry of Economy and Finances), Cameroon
MINESUP:	Ministère de l'Enseignement Supérieur (Ministry of Higher Education), Cameroon
MINRESI:	Ministère pour la Recherche Scientifique et l'Innovation (Ministry for Scientific Research and Innovation), Cameroon
MINSANTE:	Ministère de la Santé Publique (Ministry of Public Health), Cameroon
MISAU:	Ministerio da Saúde (Ministry of Health), Mozambique
MMV:	Medicines for Malaria Venture. Switzerland
MoA:	Memorandum of Agreement
MoES:	Ministry of Education and Sports, Uganda
MoH:	Ministry of Health
MoU:	Memorandum of Understanding
MRC:	Medical Research Council, United Kingdom
MS:	Ministère de la Santé (Ministry of Health), Burkina Faso
MSTVT:	Ministry of Science, Technology and Vocational Training, Zambia
MTEF:	Medium Term Expenditure Framework
NAC:	National AIDS Council, Mozambique
NACCAP:	The Netherlands-African partnership for capacity development and clinical interventions against poverty-related diseases
NARO:	National Agricultural Research Organization, Uganda
NCSR:	National Council for Scientific Research, Zambia
NCST:	National Council of Science and Technology, Zambia
NDA:	National Drug Authority, Uganda
NEPAD:	New Partnership for Africa's Development
NGO:	Non Governmental Organization
NHA:	National Health Assembly, Uganda
NHRAC:	National Health Research Advisory Committee, Zambia
NHRS:	National Health Research System
NHSP:	National Health Strategic Plan, Zambia
NIH:	National Institutes of Health, United States of America
Norad:	Norwegian Agency for Development Cooperation, Norway
NUFU:	Norwegian Programme for Development, Research and Education, Norway
OCEAC:	Organisation de Coordination pour la Lutte contre les Endemias en Afrique Centrale (Organization for the Coordination of the fight against Endemics in Central Africa), Cameroon
OECD:	Organization for Economic Cooperation and Development
PADS:	Programme d'Appui au Développement Sanitaire (Programme for Health Development), Burkina Faso
PARPA:	Plano de Acção para a Redução da Pobreza Absoluta (Plan for the Reduction of Absolute Poverty), Mozambique
PC:	Population Council, USA
PESS:	Strategic Plan for the Health Sector, Mozambique
PMCTC:	Prevention of Mother to Child Transmission of HIV/AIDS
PNDS:	Plan National de Développement Sanitaire (National Plan for Health Sector Development), Burkina Faso
PROSAUDE:	National Research Fund, Mozambique
PRSP:	Poverty Reduction Strategy Paper

PSN:	Politique Sanitaire Nationale (National Health Policy), Burkina Faso
PSRS:	Plan Stratégique de Recherche Scientifique (Strategic Plan for Scientific Research), Burkina Faso
REACH:	Regional East African Community Research
REACT:	Strengthening fairness and accountability in priority setting for improving equity and access to quality health care at district level in Tanzania, Kenya and Zambia
REDS:	Network for Ethics, Rights and HIV/AIDS, Cameroon
SAG:	Sector Advisory Group, Zambia
SDC:	Swiss Agency for Development and Cooperation, Switzerland
SERSAP:	Société d'Etude et de la Recherche en Santé Publique (Society for Studies and Public Health Research), Burkina Faso
Sida/SAREC:	Swedish International Development Agency / Department for Research Cooperation, Sweden
SOMANET:	Social Science and Africa Medicine Network, Kenya
STDs:	Sexually Transmitted Diseases
STELA:	Secrétariat Technique pour l'Efficacité de l'Aide (Technical Secretariat for Aid Effectiveness), Burkina Faso
SWAp:	Sector Wide Approach
SWG:	Sector Working Group, Uganda
TB:	Tuberculosis
TDRC:	Tropical Diseases Research Centre, Zambia
TORCH:	Tororo Community Health, Uganda
TWG:	Technical Working Group, Uganda
UCRI:	Uganda Cancer Research Institute, Uganda
UCSF:	University of California, San Francisco, United States of America
UEM:	Universidade Eduardo Mondlane (Eduardo Mondlane University), Mozambique
UFR / SDS:	Unité de Formation / Recherche en Sciences de la Santé (Training Unit / Research in Health Sciences), Burkina Faso
UFR / SEG:	Unité de Formation / Sciences Economiques et de Gestion (Training Unit / Economy and Management Sciences), Burkina Faso
UFR / SVT:	Unité de Formation / Recherche en Sciences de la Vie et de la Terre (Training Unit / Life and Earth Sciences), Burkina Faso
UNAIDS:	Joint United Nations Programme on HIV / AIDS, Switzerland
UNCRL:	Uganda Natural Chemotherapeutics Research Laboratories, Uganda
UNCST:	Uganda National Council for Science and Technology, Uganda
UNDP:	United Nations Development Programme
UNESCO:	United Nations Educational, Scientific and Cultural Organization
UNHRO:	Uganda National Health Research Organization, Uganda
UNFPA:	United Nations Population Fund, USA
UNICEF:	The United Nations Children's Fund
USAID:	United States Agency for International Development
UTRO:	Uganda Trypanosomiasis Research Organization, Uganda
UVRI:	Uganda Virus Research Institute, Uganda
WB:	World Bank
WHIP:	Wider Harmonization in Practice, Zambia
WHO:	World Health Organization
WHO/TDR:	UNICEF-UNDP-World Bank-WHO Special Programme for Research and Training in Tropical Diseases, Switzerland
WHO/HRP:	UNDP-UNFPA-WHO-World Bank Special Programme of Research, Development, and Research Training in Human Reproduction, Switzerland
ZAMPHOR:	The Zambian Forum for Health Research

# Executive summary

Alignment and harmonization of donor support to low and middle income countries is essential to improve the effectiveness of development aid and may be useful in improving impact of health research support. Alignment refers to the donor commitment to base development assistance on partner countries' strategies, institutions and processes.

Harmonization is the commitment by donors to rationalize their multiple activities in ways that maximize the collective efficacy of aid under country ownership. The Alignment and Harmonization Study (AHA Study) analyzed the practices and potentials of alignment and harmonization in health research, using the principles of the Paris Declaration on Aid Effectiveness<sup>1</sup>. The study involved five African countries (Burkina Faso, Cameroon, Mozambique, Uganda and Zambia) and eight donor countries (Canada, Denmark, Ireland, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom), and was conducted between May 2007 and June 2008. Health research system mapping, document reviews, web searches and key informant interviews were used to collect data.

## National Health Research System in Zambia

Two ministries are involved in the governance and management of health research in Zambia: 1) the Ministry of Science, Technology and Vocational Training (MSTVT) is involved through the National Council of Science and Technology (NCST) - is the statutory body that oversees all research in the country, and 2) the Ministry of Health is involved through the National Health Research Advisory Committee (NHRAC) that was established in 1998 to monitor developments and identify needs for action in health research. The NHRAC has played a crucial role in setting priorities on behalf of Government, and promoting conduct of research on the priorities. To ensure more effective operations, it needs to be strengthened, and a secretariat established.

A body to specifically oversee and coordinate health research in the country has yet to be established, and is currently under development.

The overarching framework for research is the Science and Technology Act of 1997. A national health research policy has been drafted in 2007 by the NHRAC and should be brought forward for cabinet approval. There is also a draft health research strategic plan.

Through a priority setting process that was organized in 1998 by the NHRAC, the Ministry of Health defined in 1999 seven national health research priority areas. There have not been any updates of these priorities since then.

Funding for health research is mainly from external funders (estimated at over 90% of the research resources). For the most part, these funds are sent directly to the research institutions, usually without an explicit requirement that the research be aligned to national priorities.

Regarding health research findings dissemination, the NHRAC has instituted bi-annual National Health Research Scientific Conferences to look at what research has been done and determine what else needs to be undertaken, and to share information between different health research stakeholders. This has helped improve communication on health research.

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<sup>1</sup> The Paris Declaration on Aid Effectiveness, OCED, 2005, <http://www.oecd.org/dataoecd/11/41/34428351.pdf>

### Donors Alignment and Harmonization in Zambia

Respondents' knowledge of the Paris Declaration is generally low, even though interviewees share a general understanding of and desire for alignment and harmonization.

Among the eight donor countries involved in the study Sweden, Canada, Norway, the United Kingdom and Denmark are supporting health research in Zambia. Zambia has a system in place with structures and processes for alignment and harmonization of health support in general, but not for health research support in particular. When donors provide support to research institutions, they usually do so without requiring that the research be aligned to national priorities.

### Issues to be considered

- The coordination of health research in the country can be strengthened by defining and implementing a strategic plan for health research that includes a clear process for defining, communicating, monitoring and revising the national health research priorities.
- Such a strategic plan and priorities could facilitate donor alignment to the country's health research needs. Where donors fund research institutions directly, a requirement for alignment to country priorities may be considered.
- Increasing the consultations between donors and the health research stakeholders including researchers, communities and policymakers, is another strategy that can be used.
- Improving communication regarding available health research funding, i.e. through open calls for proposals to allow all interested parties to participate in an open competitive process, can be considered.

# 1. Introduction

Low-income countries face a massive under-investment in health research relevant to their needs. Factors that contribute to this problem include inadequate funding for health research in and by poor countries, limited participation of scientists from developing countries in both international research and the global policy arena, and the lack of funding for health research at the country level.

The health research support of development cooperation agencies is often limited, not harmonized between agencies and unaligned with developing countries' health and health research priorities. Donors' ability to effectively align with countries' strategies tends to be restricted by a lack of comprehensive and operational health research policies and strategies, and a failure to include health research in countries' Poverty Reduction Strategies Programmes.

As a multilateral solution to improve aid effectiveness, and in addition to the Rome Declaration on Harmonization of 2003, more than 100 wealthy and developing countries and organizations signed the **Paris Declaration on Aid Effectiveness** in 2005. Signatories to this international agreement committed to adhere to and increase harmonization, alignment and aid management efforts through a set of monitorable actions and indicators.

The partnership commitments are organized around five key principles:

- *Ownership*: Partner countries exercise effective leadership over their development policies and strategies, and co-ordinate development actions.
- *Alignment*: Donors base their support on partner countries' national development strategies, institutions and procedures.
- *Harmonization*: Donors actions are more harmonized, transparent and collectively effective.
- *Managing for results*: Donors and partner countries manage resources and improve decision-making for results.
- *Mutual accountability*: Donors and partners are accountable for development results.

Given that the Paris Declaration is aimed at improving the impact of development aid in general, and was not designed specifically for health research support a group of donors met with COHRED in Cairo in November 2006 to understand the potentials, limitations and implementation of the Paris Declaration principles in the domain of health research support.

Following this meeting, COHRED initiated a study on donor alignment and harmonization in health research, for which financial support was provided by Sida/SAREC. The purpose of this study was to understand how the Paris Declaration can be fruitfully employed in the field of health research support, including institutional or project-based research collaboration, as well as other support that is not normally seen as part of 'development aid'.

The study, known as the Alignment and Harmonization or AHA Study, includes five African countries: Burkina Faso, Cameroon, Mozambique, Uganda and Zambia; and eight donor countries: Canada, Denmark, Ireland, the Netherlands, Norway, Sweden, Switzerland and the United Kingdom.

The study findings served as background material for a consultation on how to improve and increase donor alignment and harmonization to national health research priorities and systems that was held in Beijing on 31 October 2007 in conjunction with the Global Forum for Health Research meeting. The meeting involved 39 representatives of all the five African countries, eight donors and two major research sponsoring agencies (the Fogarty International Centre of the US National Institutes of Health and the Wellcome Trust) that were not part of the earlier assessment.

This three-part report presents the AHA study data for Zambia:

- Chapter 3 provides an overview of the national health research system (NHRs) in Zambia. It includes information on the NHRs governance and management including legislation and policies, priorities, and financing and human resources related to health research. It also provides case studies of health research institutions and civil society organizations involved in health research.
- Chapter 4 provides an overview of health research funding, with particular attention to the donor countries involved in the AHA study in Zambia.
- Chapter 5 looks at the adherence to the Paris Declaration in relation to health research support in Zambia. This information should help inform the health research support planning efforts of other donor and partner countries.

The synthesis report of the AHA study (available from: [www.cohred.org/AHA](http://www.cohred.org/AHA)) provides information on all five countries, as well as further analysis on the applicability of the Paris Declaration principles to health research.

## 2. Methods

### **Study objective and methods**

The primary objective of the AHA study was to examine national health research systems and priorities in the five African countries, as well as the policies and activities of eight donor countries as they relate to the funding and the alignment and harmonization of health research.

The methodology for data collection consisted of:

1. Telephone and personal interviews of key informants among the eight donors and among the following constituencies in Zambia:
  - Government
  - research institutions
  - NGOs
  - donor representatives in the country.
 Representatives from different constituencies were interviewed to provide an objective overview of the NHRS and donors' alignment and harmonization in Zambia. In addition, interviews were designed to collect data that would better integrate the diverse perspectives of the different sectors charged with coordinating, undertaking and funding health research at the country level.
2. Desk review of key documents received from donors and stakeholders in the country.
3. Internet searches.

A draft of the country report was reviewed by the interviewees.

### **Data collection in Zambia**

Interviews were conducted from 17 July to 10 August 2007.

Twelve stakeholders were interviewed including three representatives from the Government (Ministry of Health, NCST and the NHRAC, two representatives from research institutions, four representatives from NGOs and three representatives from donor countries (Canada, United Kingdom and Sweden).

The interviews took place in Nairobi, Kenya and in Lusaka, Zambia. All interviewees were very cooperative and available.

Internet searches were conducted from May 2007 to May 2008.

### **Study limitations**

The main limitations lay in the fact that most of the interviewees were not able to provide human resource data, especially details regarding age and gender distribution, as well as financial data regarding either the national budget or bi-lateral and multi-lateral funds for health research. It was also not possible to obtain activity reports presenting the full details of their health research projects.

### 3. National Health Research System in Zambia

#### 3.1. NHRS governance and management

In Zambia, two ministries are involved in the management of health research – the Ministry of Health (MoH) and the Ministry of Science, Technology and Vocational Training (MSTVT). Two statutory bodies are also part of the management structure – the National Council of Science and Technology (NCST) that falls under the MSTVT and the National Health Research Advisory Committee (NHRAC) which is within the MoH.

A governance structure to specifically oversee and coordinate health research in the country has yet to be established, and is currently under development.

In 2007, the Ministry of Health organized a week-long retreat to conceptualize a governance structure for health research in the country.

Prior to being disbanded in 1997, the National Council for Scientific Research (NCSR)—a precursor to the NCST—played an important role in health research.

**The National Council of Science and Technology** is a statutory body that oversees all research in Zambia. It was established by an Act of Parliament—the Science and Technology Act No. 26 of 1997—then inaugurated on 10th August 1999. The Secretariat was established on 1st April 2000<sup>2</sup>.

NCST's mission is to enhance Zambia's capacity for scientific research and technological development, in order to create wealth and improve the quality of life. NCST membership is drawn from various institutions, including the MoH.

NCST promotes science and technology, regulates research including the registration of research and research and development institutions, and initiates special projects. It also advises the Government on science and technology related policies, the establishment of any new research and development institutions, and national research and development priorities<sup>3</sup>. NCST mobilizes and makes available financial, human and other resources—including science and technology information—to research and development institutions.

NCST operates under a clear legal framework but coordination with research institutions and enforcement of NCST policies is difficult. The NCST would like to pool research funding through a single window, so that it can monitor research funding and outputs.

Currently, the NCST brings researchers together in an Annual Planning Conference where they present papers and proposals. The NCST National Committee reviews the proposals and gives grants. It has some mechanisms in place to monitor research.

At sector level, each sector has its own internal programs and processes that deal with issues of priority to the sector. The NCST deals with issues of national importance. Integrating traditional medicine into HIV/AIDS treatment serves as a good example of how the sector approach works in the health arena. NCST is encouraging and supporting consideration of traditional medicine, and has sponsored platforms for dialogue as well as surveys on traditional medicine to stimulate the flow of information on this topic.

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<sup>2</sup> National Science and Technology Council (NSTC) Brochure.

<sup>3</sup> National Science and Technology Council (NSTC) Brochure.

NCST consists of thirteen members appointed MSTVT. NCST has four Committees, which act as its think tank on technical, administrative, finance and procurement issues that arise in the process of fulfilling its functions. These are:

- The Science and Technology Technical Committee
- The Administrative and Finance Committee
- The Tender Committee
- The Science and Technology Development Fund Committee.

The day-to-day operations of the NCST are undertaken by the Council Secretariat, which has two departments: the Science and Technology Technical Department and the Administration and Finance Department.

**The National Health Research Advisory Committee** monitors developments and identifies needs for action in health research. It was established by the MoH in 1998. The NHRAC has played a crucial role in setting priorities on behalf of Government, and promoting conduct of research on these priorities.

NHRAC consists of members drawn from various research institutions. Its terms of reference includes advising the Minister of Health on how health research could be better conducted in the country, leading priority setting, handling communication related to health research, and building MoH capacity in the use of research findings.

NHRAC's functioning is hampered by the fact that has no secretariat. Although the NHRAC exists as the designated coordinator for health research, in practice it is therefore not yet fully functional. It will be stronger and more effective when a secretariat is provided internally within the MoH or externally by contracting out to a suitable body.

Despite these limitations, the NHRAC has realized some commendable achievements. It meets regularly, sets priorities on behalf of Government, and promotes conduct of research on the identified priorities. In 1998, it developed a catalogue of health research conducted in the country. This effort revealed that research undertaken was mainly descriptive, focused on urban centres, and generally short-term in nature. Based on these findings, the NHRAC developed the national health research agenda and priorities, and started the process of tracking health research. It also created a website to share research information ([www.mohresearch.zm](http://www.mohresearch.zm)) within the main MoH website (<http://www.moh.gov.zm/>).

The NHRAC also instituted bi-annual National Health Research Scientific Conferences, which bring together district and province ministry of health representatives, academia, civil society and other researchers. Interviewees said that these meetings have been very successful. The first one was held in 1998, with subsequent meetings taking place in 2000, 2004, and 2007. The intention of these conferences is to consider what research has been done, identify research gaps and determine what else needs to be done, and share information between different health research stakeholders.

MoH has several other players involved in health research including the AIDS Council and healthcare facilities across the country. The idea of starting a Medical Research Council (MRC) that can bring together relevant players in the sector is currently under discussion, but has received some opposition from those who question whether a medical equivalent to the NCST is really needed.

A Director of Public Health and Research now operates within the MoH. Interviewees mentioned increasing the capacity of government to absorb and utilize research findings as the next step. Ownership is growing within MoH, but the need for an increase in MoH's budgetary allocation to health research remains.

The Tropical Disease Research Centre was created as the research arm of the Ministry of Health in 1997. It is charged with the promotion of health research.

**The National Council for Scientific Research** was established in 1967 (just three years after Zambia gained independence) and given a mandate to guide development of all research. NCSR coordinated and promoted research of all kinds in the country, and undertook research in areas of strategic importance to the country, until it was disbanded in 1997.

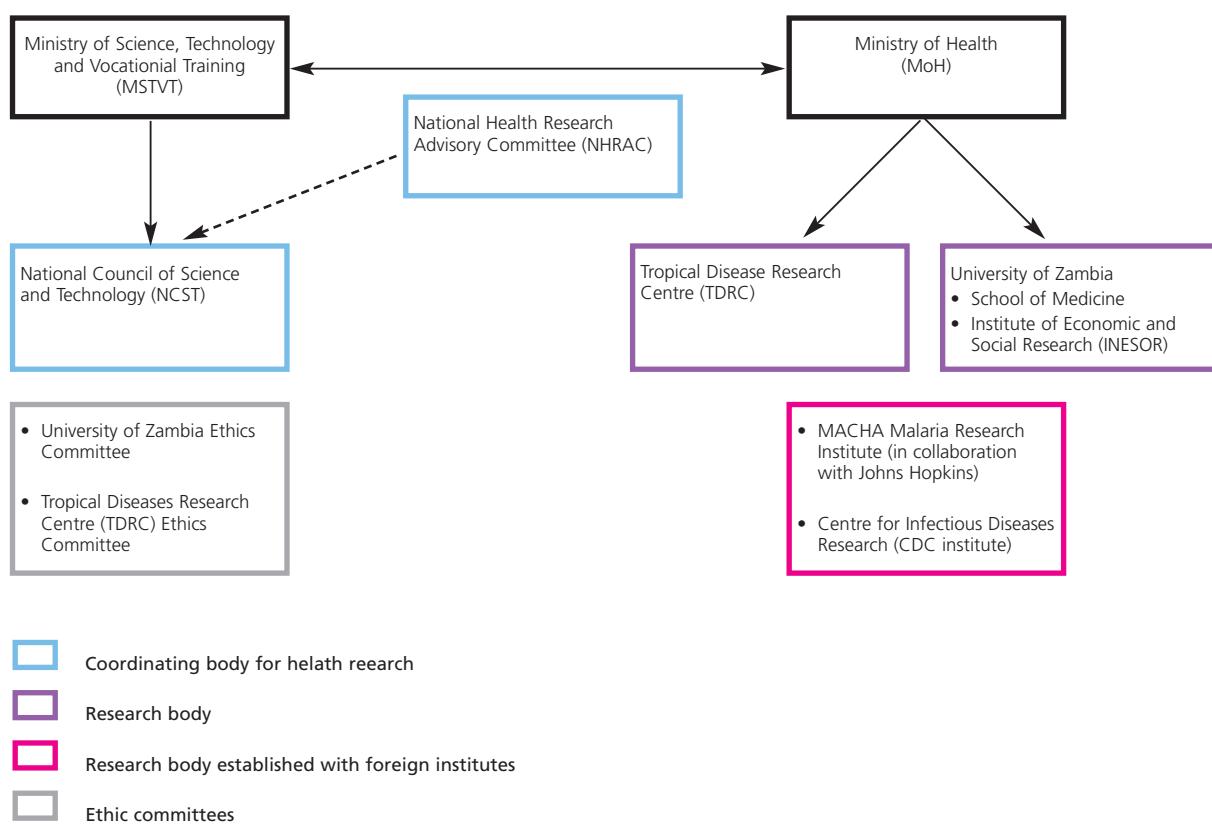
NCSR created a Medical Committee to specifically look at health research. One of the stakeholders interviewed for this study served on this Medical Committee at a time when the NCSR had a very dynamic Secretary General, who successfully championed the cause of research. *"There was an awakening in the sciences those days"* the interviewee observed, *"Then it quietly disappeared... it is not clear why that happened"*.

The NCSR was simultaneously charged with regulating research on the one hand, and with mobilizing resources and carrying out research on the other. This resulted in conflicts of interest. In 1997, these functions were separated, leaving one body to coordinate, regulate and mobilise resources for research, and others to conduct the actual research.

The NCST, which currently oversees research in Zambia, was established as a result of this separation of functions. NCST became the body that oversees overall science and technology. Health research became a sector under the NCST, and the specific health research component that had been represented by the Medical Committee of the NCSR disappeared.

See figure 1 for the organization of the Zambian health research system.

**Figure 1: The National Health Research System in Zambia**



### **3.2. Health research legislation and policies**

#### **a) Legislation related to health research**

Interviewees identified legislation and policy as an area of weakness that needs to be improved. The National Health Policies and Strategies of 1992 provide the overall policy framework within which health services are provided. The Health Act mainly addresses public health, and not health research.

The overarching framework for research is the Science and Technology Act of 1997. The legal framework does provide for:

- Priorities for research;
- Registration of research institutions;
- Structures for organizing research;
- Gives NCST powers to set up research centres.

However, there are several issues that are not addressed in this Act:

- Research conducted in Zambia by people who come from outside the country;
- A fee structure for people who come to do research and use local resources, and a mechanism for enforcing it.

Interviewees indicated that there is need for comprehensive legislation to effectively cover various key aspects of health research.

#### **b) Policies related to health research**

Zambia has a National Health Strategic Plan 2006 – 2010, and is currently working on a Strategic Plan for Health Research. The country also has a draft National Health Research Policy that is near completion. A National Science and Technology Policy covers all research.

The National Health Strategic Plan explicitly addresses the need for interventions to be evidence-based. On page 58 it states:

*The current MoH structure does not provide for a Health Research Unit. Reliable National Research Priorities and recommendations for action must emerge from the Provincial and District level to be effective. Currently, the capacity at both Province and District levels to analyze, interpret and utilize data is limited. Integration and institutionalization of research as an integral routine component of the health policy development and program implementation process is of critical importance.*

*Institutionalization of the use of research outcomes for health planning, policy and decision-making and program implementation at program level, as well as, the Central and Provincial levels of MoH is currently unsatisfactory. Mobilization of resources for conducting relevant health research is therefore important. The development of effective mechanisms and systems in setting out MoH and national program health research priorities is almost non-existent. Therefore, it is important to develop and strengthen existing health research systems at all levels that define priorities for health research, influence national, regional and global health agendas and lobby for a more equitable allocation of resources’<sup>4</sup>.*

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<sup>4</sup> Government of the Republic of Zambia. Ministry of Health. National Health Strategic Plan 2006 – 2010. December 2005. Pg 58.

The Plan goes further to state the strategies that will be put in place to strengthen research in the country. It states:

The proposed research strategies involve building capacities, infrastructures, competencies in the relevant MoH Directorates, participation at research conferences, undertaking research and tackling policy issues and will include<sup>5</sup>:

1. Strengthening of the research capacity in MoH and mandate for National Health Research Advisory Committee in an effort to institutionalize health research at the various levels of health care;
2. Provision of assistance and building on existing structures, efforts, research networks, and experiences to link research to policies for improving the quality and extending the coverage of malaria, mother and child health, reproductive health and HIV/AIDS services. Facilitate dissemination of research results to all relevant stakeholders, including PHOs in order to maximize utilization of research outcomes; and
3. Strengthening capacity to conduct applied health research in the academia, and other statutory health bodies.

### **3.3. National health research priorities**

In 1998 NHRAC conducted a priority setting exercise. The steps in this process included tracking what research had been done, small group brainstorming sessions, a National Health Research meeting that brought together different stakeholders (200 to 300 people involved), and synthesis of key research findings by a team of experts. The exercise resulted in a list of recommendations for strengthening research in the country. A small committee was set up to analyze, refine and package the extensive list that came out of the meeting. The result of the committee's effort was subject to a consensus meeting that provided additional feedback and input. The final result of this process was a set of national health research priorities that were disseminated through hard copies and email in 1999.

The seven national health research priority areas were<sup>6</sup>:

- i) Malaria
- ii) Child health
- iii) Nutrition
- iv) Diarrhoeal diseases
- v) Reproductive health
- vi) STD/HIV/AIDS/TB/leprosy
- vii) Water and sanitation

Outstanding tasks were integration of the various processes into a coordinated system, development of processes through which research outcomes could be continually fed into policy making and programme implementation, and identification of a process for updating the priorities.

Interviewees identified health research priorities as an area of weakness. Some stakeholders indicated that the MoH is disease focussed in its outlook, as one of its key functions is to provide curative services. They reported that this focus influences research priorities. Some interviewees said that the priority setting process was not a very representative and inclusive process. However, provinces and districts, NGOs, members of

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5 Government of the Republic of Zambia. Ministry of Health. National Health Strategic Plan 2006 – 2010. December 2005. Pg 58.

6 Report on the Zambian Consultative Process for the International Conference on Health Research for Development. April 2000

Parliament and researchers were present in the priority setting process. Interviewees recommended that a formalized process be established for participatory health research priority setting and review, with a clear listing of all relevant stakeholders to be involved.

The influence of donors was also cited as a problem that skews health research priorities. Current donor interest in certain conditions influences the availability of research funds. Currently, research funds are mainly available for TB, malaria and HIV.

### **3.4. Health research financing**

Government funding for health research is limited, and there is a high dependence on external funding. About 0.02% of GDP is estimated as going into research in general. The MoH and the Ministry of Agriculture account for about two thirds of this amount, at one third each.

The NCST now has funds for strategic research, and is expecting to distribute these funds for the first time in 2007. The amount is about 500 million Zambian Kwacha (equivalent to about 150,000 USD).

There is also a new Innovation Fund and the government has just started giving funds out.

Interviewees share the consensus that poor coordination makes determining the total inflow of funds into health research difficult. External donors fund much of the health research conducted. Some interviewees estimate that international financiers fund over 90% of the research undertaken in Zambia. The USA are key funders. Project funding ranges from a few thousand dollars to millions of dollars.

Donors come in under different programs, and provide funds that go directly to projects in a piecemeal manner that is difficult to quantify. The principal health research funders were identified as the bilateral funders (USAID, Norad), and multilateral organizations (WHO, UNDP, UNICEF, World Bank).

Interviewees indicated that donors pay for the things they want. One of the stakeholders interviewed put it this way: *"What incentive are you going to have so the donor bothers to look at the priorities you have set? What mechanism can be put in place to make what we want done attractive to the donors? They will pay for what they think is important. Set priorities and say who will pay for it otherwise you will not move – if nobody pays, then nobody does the research".*

### **3.5. Human resources for health research**

#### **a) Existence of a national human resources for health research strategy**

There is no national strategy in place for human resources for health or health research. A Human Resource for Health Research Conference organized by NHRAC and supported by Sida, CIDA, the World Bank and other partners, was held on 7th and 8th June 2007. The conference theme was "Transforming Research into Action: Providing Evidence for HRH Policy Development, Program Design and Implementation"<sup>7</sup>. The overall objective of this conference was to gather evidence that would contribute towards moving the National Human Resources for Health (HRH) Agenda forward by informing policy development and implementation of the HRH Strategic Plan in Zambia.

The specific objectives of the conference were to: review evidence (current knowledge and experiences), discuss how evidence can be translated into policy, and propose specific

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<sup>7</sup> <http://www.moh.gov.zm/JM%20Rese/Research%20for%20HR%20for%20Health/HRH%20Research.htm> has details on the conference including presentations made.

recommendations to effectively operationalise the Zambia National HRH Strategic Plan. The conference came up with a number of recommendations to urgently address the current critical shortage of manpower. An action plan for the next one-year was developed to ensure that these recommendations are acted upon. They fall under the following categories<sup>8</sup>:

- Strengthening research capacity:
  - develop a system for coordinating HRH research activities and updating research priorities;
- Developing research policy/strategies:
  - incorporate HRH in the National Health Research Strategic Plan;
- Setting research agenda and priorities:
  - develop a national HRH research agenda and priorities;
- Disseminating research findings:
  - publication/dissemination of post HRH research conference book;
  - organize HRH research follow-up conference.

#### b) Existence of capacity programmes for health research

The MoH embarked on a health systems research capacity building programme in 2001, and continued until 2005 when funding was discontinued. It started with provinces, and was to progress to district level, but stalled because of the funding problem. Programme funding had previously come from MoH.

Ongoing capacity building for health research does occur through the School of Medicine. Aside from the regular postgraduate programs, the Foundation 50 now provides courses for writing skills to promote scientific publication.

### 3.6. Health research institutions

Zambia has two main national health research institutes – the Tropical Diseases Research Centre (TDRC) situated in the Copper belt in Ndola and the School of Medicine.

Another Zambian institution involved in health research, though not as a primary function, is the Institute of Economic and Social Research (INESOR).

Research institutes established in collaboration with foreign institutes include the following:

- MACHA Malaria Research Institute located about 300 km south of Lusaka and set up in collaboration with Johns Hopkins.
- Centre for Infectious Diseases Research in Lusaka set up as a Centre for Disease Control and Prevention (CDC) Institute.

#### The Tropical Diseases Research Centre

The TDRC was initiated by the World Health Organization (WHO) in collaboration with the Zambian Government<sup>9</sup>. This was in response to a resolution of the World Health Assembly (Resolution No. WHO 27.52) of 1974 which called for the intensification of research into tropical diseases and stipulated that, as far as possible, the work should be done in developing countries where these diseases are endemic<sup>10</sup>. TDRC is a statutory body under the MoH with the mandate to conduct epidemiological and clinical research.

<sup>8</sup> Ministry of Health Communiqué Issued at the end of the Human Resource for Health Research Conference organized by the National Health Research Advisory Committee (NHRAC) of the Ministry of Health on 7th - 8th June 2007. Mulungushi International Conference Centre, Lusaka, Zambia. June 2007

<sup>9</sup> <http://www.cpnafrica.eu/?menu=10&page=14>

<sup>10</sup> <http://www.cpnafrica.eu/?menu=10&page=14>

The main areas of research focus are malaria, HIV/AIDS, Schistosomiasis, Trypanasomiasis, and nutrient deficiencies.

Most of the research at the Centre is supported by competitive grants from external donor agencies and collaborating institutions such as WHO, UNICEF, U.S. Centre for Disease Control and Prevention (CDC), Duke University, Boston University, Institute of Tropical Medicine (Belgium), Wellcome Research Laboratory (UK), the Irish Government, and USAID<sup>11</sup>.

#### **The University of Zambia School of Medicine**

The University of Zambia School of Medicine is a national academic institution. It falls under the Ministry of Education. Ultimate decision-making lies with the Vice Chancellor, the University Council and the Senate for academic affairs. The School was started in 1966, two years after independence. At the time the population of the country was four million. Now, over 40 years later, the population of the country is 12 million, and it remains the only School of Medicine in the country.

Its health research priorities are in HIV/AIDS, Tuberculosis (TB), malaria, maternal and child health issues and infectious diseases. It also supports health research in all other areas. The School recognizes that its health research priorities need to support national health research priorities, but has not embarked on a formal process to develop research priorities. The priorities mentioned here have been driven largely by individual interest and involvement, as well as available funding opportunities.

The School was part of the process of setting up national health research priorities and sat in meetings discussing this. The School has also been invited in meetings for the formulation of health research policy.

The School is involved in advocacy for health research, resource mobilization for its own research, knowledge generation, capacity building and development and ethical assessment. It has research projects in basic medicine, clinical medicine, health sciences, systems and policy, basic science and social science.

The School has had several research projects going on for many years. Most of its funding is from foreign sources. Funding is usually in small amounts to individual lecturers for studies. Donors have put money into basket funds with MoH. The School falls under the Ministry of Education and therefore has difficulty getting funding when the funds are with the MoH. Funding goes to the University first before going to the School of Medicine. The tuition fees also go to the University.

The School's overall budget per annum is about 500,000 USD to one million USD. Of the eight AHA study donor countries, the School only received funding from the UK (DFID) and Norway. The UK funding was in the amount of three million Sterling Pounds and targeted to curriculum development between 1996 and 2001.

Some of the School's research projects and funding sources include the following:

1. HIV/AIDS - The Microbicide trial – 2 million USD over 5 years.
2. NUFU - 900,000 USD
3. Other smaller ones - 60,000 USD

The School has collaborative links with a number of Northern Institutions, the principal ones being NUFU – the University of Bergen, and the London School of Hygiene and Tropical Medicine. These links are all formalized through Memoranda of Understanding, and include components of student exchange, staff exchange and research. Over 90% of the School's funded research work in 2005 –2006 consisted of collaborative research.

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<sup>11</sup> <http://www.cpnafrica.eu/?menu=10&page=14>

With regard to human resources, the School is understaffed. It has 60 academic staff, and relies on honorary MoH staff to help with teaching. 70% of staff are male. At approximately 20%, very few staff devote at least 10% of their time to health research. About 20% of the health researchers in the institution are foreign.

None of the academic staff have a bachelor level of education; all have at least a Masters level. 50% of the staff are Medical Doctors. About 10% of the staff (70% of them male) have PhDs. Many staff go for Fellowship programmes rather than PhDs. About 20% of the PhDs are foreigners. With regard to age distribution, most staff are between 45 and 60 years of age, followed by the 35 to 45 year old age group.

It has been difficult for the School to recruit health researchers. They run a Masters programme that has trained 180 specialists over the years, and from these only two have joined the School.

The main mode of dissemination of research findings is through publications. The School also sensitizes policy-makers by sending information which is expected to be of interest to the MoH.

One example of research results that have led to government action is the TB treatment policy. The TB project has been run at the School for the last 15 years, and has contributed to the TB treatment protocol changes that have taken place in the country.

Now that research has been included in the 5th National Development Plan some funds are coming to the University, but they are minor and by the time they are shared out the School gets very little.

#### **Foundation 50**

Foundation 50 is a national membership institution started in April 2005. It is based at the University of Zambia, and brings together academics who do research in their areas of interest. It does not have defined health research priorities; priorities are mainly determined by the resources available and researchers' interests. Foundation 50's main areas of research interest are HIV/AIDS, social research in health, and community-based research e.g. maternal mortality.

Its main focus, however, is on ensuring that whatever research gets done gets published. Foundation 50 is involved in capacity building to support this goal.

Its principal funding (about 90%) has been from Norway (Norad) for a NUFU project on productive learning cultures. This was a 5-year agreement funded at 80,000 Norwegian Kroner (16,000 USD) per year for 5 years for capacity building and developing academic and research and writing skills. Foundation 50 has a formal agreement for collaboration with the University of Bergen in Norway. Canada has provided support by hosting one of Foundation 50 list serves. The MoH has occasionally provided minor funding, as well as some resources from a partnership project for prevention of HIV/AIDS that closed in March 2007. None of these efforts stipulated alignment to country priorities as a requirement.

Foundation 50 has 55 members, 80% of whom are male. It has an Executive Council consisting of 12 people, and gets administrative support through the University of Zambia. About 15% of its members devote at least 10% of their time to research. All members have at least a Masters level of education and about half have PhDs, while about 20% are MDs. Its members are mainly young researchers, with most of them being between 35 and 45 years of age.

To disseminate research findings to policy makers, Foundation 50 organizes lectures and invites policy makers to attend. For example, the Foundation had a public health lecture on the Lusaka water tables and their relationship to water borne diseases. The Ministry of Health City Planners participated. They funded the study and the Foundation is now involved in publicity on where to/not to put boreholes.

Foundation 50 staff also write reports and send them to policy makers. This is an area that the Foundation wants to improve on, and it is working on improving the skills of its members in writing for publication. The Foundation would also like to see the establishment of a local journal and an electronic database to help improve dissemination of research findings, as well as processes for knowledge translation that can help increase implementation of research findings.

### **3.7. Organized civil society in health research**

#### **Centre for Health Science and Social Research (CHESSORE)**

CHESSORE is an NGO that has been in operation since 1993. It has three main research components – Social Science, Health Science and the Hard Sciences e.g. drug production (this last component has yet to be activated). The founders were medical doctors and lecturers in both public and private medical practice. CHESSORE was set up as a centre whose vision is to provide evidence-based solutions to the current health problems in the country.

The main area of research is health systems research, especially looking at redistribution of power in order to affect delivery of health services in terms of equity, access and trust.

CHESSORE monitored and evaluated health sector reforms and provided recommendations to government. MoH sub-contracts CHESSORE when they need evidence and solutions for certain health care and systems problems. CHESSORE is involved in research in malaria interventions e.g. use of insecticide treated bed nets (ITNs). The approach used is mainly community based.

Presently CHESSORE has 5 major projects:

1. Equity Gauge – started in 2000 - looking at quality of service delivery. In this study user fees were identified as a key hindrance to access to services in rural areas. This led to removal of the user fees in rural areas. Also power relations were identified as a problem. The communities/users of health services were found to be powerless with most powers conferred to the health workers, who are themselves in turn also powerless relative to their superiors. CHESSORE is now looking at how to deal with this so that open discussions can be held about ways to improve health service delivery. This work is funded by IDRC at Can \$ 340,000 over two and a half years.
2. EQUINET – looking at access to ARVs in four districts – Chingola, Choma, Chama and Lusaka. This study looks at what issues affect access e.g. inequitable distribution of resources, community factors, etc. Funding for this was 50,000 USD for one year.
3. African Health Research Forum (AfHRF) – CHESSORE is hosting this Forum in Zambia. The AfHRF is trying to bring researchers to the frontlines, to allow policy to be dependent on research findings. It has been training leaders for research, and is also working to improve communication with policy makers – by helping researchers better package their information in a manner that is understandable by policy makers.
4. Budget work – CHESSORE has been reviewing the national budget for the last four years. They do an analysis and package it in a manner that Members of Parliament (MPs) can better understand and contribute to it during the debates. CHESSORE has an MoU with Parliament for this. This year, for example, there were some missing budget lines (e.g. a big hospital with no fund allocation) and CHESSORE motivated the MPs to get the budgets allocated to that. In this work CHESSORE also works to allow communities to participate in budgeting. *"It is there in writing that budgeting starts at community level. But the reality is quite*

*different*". This work is aimed at helping correct that, and getting the government to conform to what they have said. This also involves monitoring expenditure. This work is funded by WEMOS, Netherlands.

5. Research looking at human resources in the MoH – what factors determine recruitment, retention and deployment within and between departments. This work focuses on four districts. CHESSORE is looking at the influence of external funding on this.

Other work that CHESSORE is involved in includes the following:

- Providing supervision of research students in Masters' programmes – currently with students from Liverpool University in the UK.
- WHO and Government of Zambia provided 20,000 USD to fund work on the impact of HIV on human resources within the MoH.
- REACT project – Response to Accountability and Reasonableness in public health institutions – a priority setting programme looking at what factors influence priority setting.
- Capacity building – especially at community level. CHESSORE works with volunteers to build their capacity in true participation. They hold workshops on empowerment topics such as decision-making. They also link people to resources to support training – some have been able to do their masters, and even PhDs, while others have attended short courses on Monitoring and Evaluation. CHESSORE has also facilitated attendance at international workshops by community members, as well as organized trips for MPs to conferences on health issues.
- Ethical issues – the CHESSORE Director is the chairman for the Ethical Committee for the Tropical Diseases Research Centre.

Interviewees articulated some of the challenges faced by CHESSORE. As expressed by one interviewee, "*To have impact is a major challenge. To have people accept your results is a challenge, to access funding and to continue being in existence are also major challenges. Mobilizing resources to conduct research in the areas that we want to conduct research in is a major challenge*".

CHESSORE would like to see all health research stakeholders actively participate, get truly engaged in the processes of priority setting, and have access to available resources. In particular, it is necessary to ensure that community input is included.

The main funding sources are IDRC, WEMOS (the Netherlands), Denmark, the World Bank and WHO. The MoH has also provided some funding based on contractual work. CHESSORE gained credibility because of its Health Sector Reform work. This credibility has facilitated accessing additional funding. However, for most NGOs there is considerable difficulty accessing research funds. They pointed out the need for long-term funds to allow for undertaking more meaningful work. As stated by one interviewee, "*We would like to be involved in more long term programmes - most funders are reluctant to fund long term projects*".

#### The Zambia Forum for Health Research

The Zambia Forum for Health Research (ZAMFOHR) was inspired by the four elements of research to action, included in the article by John Lavis et al in the WHO Bulletin<sup>12</sup>. The third element addresses the mixes of the four clusters of activities used to link research to action –

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<sup>12</sup> Bulletin of the WHO. <http://www.who.int/bulletin/volumes/84/8/06-030312ab/en/index.html>

push, pull, interact and integrate. It was recognized that in Zambia, aside from the interaction that occurs mainly through conferences, the other clusters were not being addressed much.

ZAMFOHR is a non-profit, non-governmental knowledge management organization that aims to harmonize the research community in the hopes of creating a spirit of evidence-informed decision-making among researchers and research-users<sup>13</sup>.

ZAMFOHR's key area of focus has thus been promotion of knowledge translation through harvesting research, putting it in a database of researchers, preparing synthesised papers and policy briefs, and establishing a national health library to facilitate access to knowledge by all stakeholders in health research.

ZAMFOHR works with MoH and other stakeholders in elaborating and setting priorities; and has also assisted in creating national health and health research strategies and strategic plans; and, with other stakeholders in identifying training and capacity building needs, particularly around human resources for health. ZAMFOHR serves on the NHRAC, and has been an active participant in the development of the National Health Research Strategic Plan.

Coordination is a key function for ZAMFOHR. "*We believe co-ordination will be achieved by having a common pool of knowledge which is easily accessible to the researchers, users and funders (sponsors). Then with the funders (sponsors) knowing this it is easier to align on this. That process brings everyone together,*" said an interviewee.

ZAMFOHR intends to offer training in knowledge translation techniques, as well as synthesis (systematic review) and policy paper preparation.

ZAMFOHR's main funding has been via *Research Matters* – a project funded by both IDRC and SDC, and its first grant money was received in 2007. This has provided core funding for the establishment of the organization amounting to 150,000 USD. Funding has also been provided for database creation and setting up a website by WHO (through the EviNet programme) amounting to 8,000 USD.

### **3.8. Regional organizations and networks**

Regional organizations and networks include Equinet, AfHRF and SOMANET.

These entities exist in a bit of a vacuum – currently the regional organizations or networks tend to house their main office in one country, and station a single representative who acts as a focal point in various countries. This limits how much the regional organization or network is able to accomplish.

### **3.9. Dissemination of research findings**

the NHRAC has instituted bi-annual National Health Research Scientific Conferences to look at what research has been done and determine what else needs to be undertaken, and to share information between different health research stakeholders. The first one was held in 1998, with subsequent meetings taking place in 2000, 2004, and 2007.

The conferences have helped make research a higher priority within the MoH. Funding for the first conference was completely external, but the MoH now dedicates a budget line item to the conference. The Government is increasingly taking ownership of the recommendations made at the conferences. For example, the development of a National Health Research Strategic Plan emerged as a recommendation from the last conference.

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<sup>13</sup> The Zambia Forum for Health Research. Strengthening the Capacity to Undertake and Utilize Research and Evidence in Health Policy and Practice. Booklet page 3

As one stakeholder put it, "*we have come from very far...we have made big progress...there are still gaps, but we have made progress. Before it was us pushing the ministry of health; now the ministry is pushing us ...asking us where are those guidelines for traditional remedies research*".

### **3.10 Ethics**

Zambia has currently two research ethics committees, one at the University of Zambia and the other at the Tropical Diseases Research Centre (TDRC). The MoH is now establishing a National Research Ethics Committee.

## 4. Health research donors in Zambia

### **Sweden (Sida/SAREC)**

Sida/SAREC provides health research funding on an ad hoc basis, for example for the Human Resources for Health Research Conference in 2007. Sida also supports international training programs in different areas including health and health research.

In line with the annual action plan and NHSP, Sida support to the Health Sector through the MoH, is identified at a funding level of 92 million Swedish Kroners (15 million USD) for 2006; 122 million (20 million USD) annually for 2007 – 2010; and 55 million (9 million USD) for 2011.

### **Canada (IDRC)**

IDRC has provided funding to a large number of projects in Zambia (see Annex 2 for some examples).

Additionally, the Canadian International Development Agency (CIDA) has provided technical support to study Human Resources for Health.

### **UK (DFID)**

DFID provides budget support, and is not a main funder for health research in Zambia. Health research support is mainly provided centrally, through the MRC. There is some limited country funding, provided for policy oriented country specific issues and for M&E. Locally, DFID has commissioned research to look at maternal mortality, conduct a microbicide trial, and look at the impact of removal of user fees (see Annex 2).

In the area of M&E, DFID has provided Technical Assistance for the Joint Annual Review and the Human Resources Technical Working Group.

DFID is moving towards budget support and mechanisms associated with it (strengthening procurement, resources use etc.).

### **Norway (Norad)**

Norad has been involved in HIV/AIDS, water and gender projects. Norway has also been providing support to Zambia through the Norwegian Programme for Development, Research and Education (NUFU).

The other AHA study donor countries currently do not fund health research in Zambia.

### **Other funders**

WHO has mainly provided Technical Assistance to the NHRAC, but no direct funding. WHO was said to be very interested in research work, and currently funding research on the integrated disease surveillance system.

The USA, although not one of the eight study countries, was mentioned as a key source of research funds for the country.

Interviewees reported that the government had not entered into formal agreements specific to research with any of the eight donor study countries or the bilateral and multilateral agencies.

## 5. Adherence to the Paris Declaration on Aid Effectiveness in relation to health research support

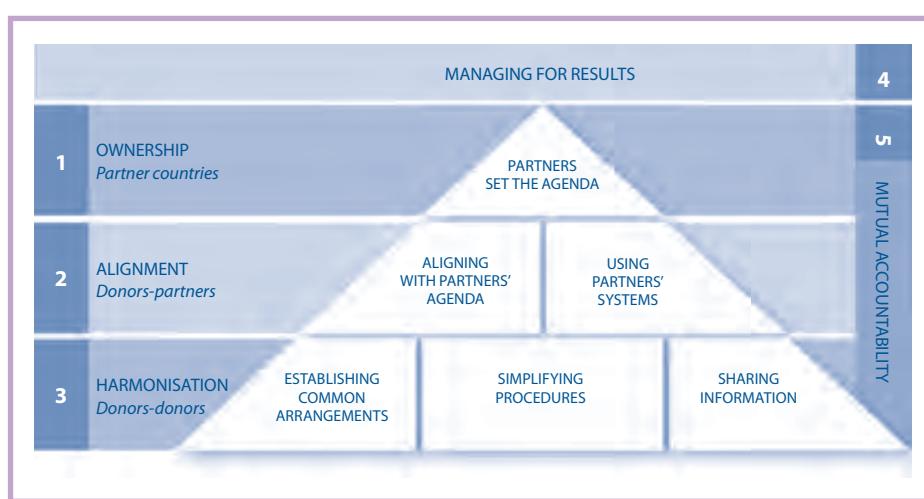
### 5.1. The Paris Declaration on Aid Effectiveness

The second High-Level Forum on Aid Effectiveness, held in Paris on 2 March 2005, brought together development officials and ministers from 91 countries and 26 multilateral organizations, as well as representatives of civil society and the private sector<sup>14</sup>. The main outcome was the Paris Declaration on Aid Effectiveness. The Declaration was the culmination of various events including Monterrey (2002), the first High-Level Forum in Rome (2003) and the Marrakech Round Table on Managing for Results (2004)<sup>15</sup>.

The four broad areas of the Rome and Marrakech commitments can be schematically depicted in a pyramid (see Figure 2). The Paris Declaration added the principle of mutual accountability. The principles of *ownership*, *alignment* and *harmonization* are the main organizing principles of this report.

Various indicators exist to measure the progress made in aid effectiveness. Twelve indicators from the Paris Declaration<sup>16</sup> and some of the indicators used by the Development Assistance Committee (DAC) Task Team on Harmonization and Alignment in various surveys<sup>17, 18</sup> were adapted to health research support for the AHA study.

**Figure 2: The Aid Effectiveness Pyramid**



14 OOCED, <http://www.oecd.org/dac>

15 Aid and Harmonization website, <http://www.aidharmonization.com/>

16 Indicators of Progress, Paris Declaration on Aid Effectiveness, <http://www.oecd.org/dataoecd/57/60/36080258.pdf>

17 DAC / OECD, Survey on Alignment and Harmonization, , Paris, 2004, [http://www.oecd.org/document/61/0,3343,en\\_2649\\_3236398\\_31659517\\_1\\_1\\_1,100.html](http://www.oecd.org/document/61/0,3343,en_2649_3236398_31659517_1_1_1,100.html). The findings of the survey were used to report progress to the Second High-Level Forum on Harmonization and Alignment of Aid Effectiveness (early 2005) where the Paris Declaration on Aid Effectiveness was signed.

18 OECD / DAC, Aid Effectiveness, 2006 Survey on Monitoring the Paris Declaration, Overview of the Results, Paris, 2006 <http://www.oecd.org/dataoecd/58/28/39112140.pdf>

## 5.2. Ownership

Ownership – that is, a country's ability to exercise effective leadership over its development policies and strategies – is critical to achieving effective implementation of the Paris Declaration. In compliance with the indicators developed by OECD-DAC, this report uses six criteria adapted for health research support to assess the degree of ownership in Zambia. These criteria can be formulated as questions.

Does Zambia have:

- Well defined priorities and an operational health research strategy to guide aid coordination?
- A significant and operational budget for health research?
- Adequate human resources to conduct health research?
- An agenda for harmonization and a process for coordinating aid?
- A framework for encouraging dialogue between Government and donors?
- The capacity for managing aid?

Zambia has national health research priorities that were defined in 1999 but that were not updated since then. The country is currently in the process of developing national health research policy document, drafted by the NHRAC, which will soon be brought forward for cabinet approval. There is also a draft health research strategic plan for Zambia.

National budget for health research is limited and research is highly dependent on external funds. The NCST has funds for strategic research at the level of about 500 million Zambian Kwacha (150,000 USD) per year. There is also a new Innovation Fund.

In terms of human resources, NHRAC organized in 2007 a Human Resources for Health Resources Conference out of which there was a recommendation to incorporate human resources in the National Health Research Strategic Plan.

Mechanisms that support harmonization in the health sector are in place. The Joint Assistance Strategy for Zambia (JASZ) process facilitates high levels of internal harmonization within the country. The United Kingdom (DFID) currently has the lead donor role with Sweden (Sida). Zambia was reported to be one of the pioneers of this approach through the SWAp.

Funding is now going through direct budget support at the national level, facilitating harmonization. The main partners in this effort have been the United Kingdom (DFID), Sweden (Sida), Canada (CIDA), and Denmark (Danida). The World Bank also participates. The USA (USAID) is not a participant in this process.

A MoU on donor coordination and harmonization has been signed between the Government and Zambia's development partners in 2004<sup>19</sup>. It covers harmonization and alignment missions, procurement, monitoring, and evaluation.

Zambia's coordinating meeting is the Sector Advisory Group (SAG), which brings together Government, academics, various levels of health care providers, donors, the private sector, churches and civil society. The group meets twice a year – in September and March.

Donors also meet with the Government to discuss their activities in terms of alignment with Government objectives, a process that is formalized through the MoU between the Government and the development partners.

Regarding Zambia's capacity for managing aid, the constraints related to the lack of capacity is one of the main impediments to a country's ability to capture and coordinate flows effectively<sup>20</sup>.

19 <http://www.dfid.gov.uk/consultations/JASZ-Annex-1.pdf>

20 OECD / DAC, 2006 Survey on Monitoring the Paris Declaration, Country Chapters, Zambia, 2007  
<http://www.oecd.org/dataoecd/44/33/38949615.pdf>

Interviewees indicated that the Government needs to take a stronger lead role in matters of health research (more systematic plans for health research, policy direction in health research, and stronger monitoring systems including ethical review).

### **5.3. Alignment**

Alignment is the term used to describe donor commitment to base development assistance on partner countries' national strategies, institutions and process. This report uses three criteria to assess the degree of alignment of the donors in Zambia:

- Do donors align on Zambia's national health research priorities?
- Do donors align on Zambia's systems and procedures?
- Do donors align in their support for capacity development?

The JASZ was finalized in 2007 and organizes the way that donors work together and monitors their progress towards implementing the Paris Declaration. All partners commit to align to national priorities when they sign the JASZ.

Interviewees indicated that difficulties with alignment are more likely to arise with international organizations not involved in the JASZ, doing research in Zambia, as there is no system in place to monitor them. Interviewees highlighted the need for stronger oversight in this arena.

In addition, donors coordinate among themselves to reduce transaction costs for the country. In future, some donors are planning to provide funds through the Ministry of Finance rather than directly to the MoH, thereby shifting from sector support to either sector budget or general budget support (the sector budget and general budget support models include salaries, whereas the sector support model currently in use does not).

### **5.4. Harmonization**

Harmonization is the term used to describe a commitment by donors to rationalise their multiple activities in ways that maximize the collective efficacy of aid under country ownership. This report uses four criteria to assess the degree of donor harmonization in Zambia:

- Do donors have common arrangements?
- Do donors have delegated cooperation?<sup>21</sup>
- Do donors conduct joint missions?
- Do donors share information and analysis?

In the health sector, the JASZ process facilitates high levels of internal harmonization but this not yet applied in the field of health research.

There is a Cooperating Partners Group (CP Group) on health and on HIV. The CP Group meets before every important government meeting—to deliberate issues and reach agreement among themselves before meeting with government and other stakeholders.

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<sup>21</sup> Donors make full use of their respective comparative advantage at sector or country level by delegating, where appropriate, authority to lead donors for the execution of programs, activities and tasks.

### **5.5. Managing for results**

The Paris Declaration asks partner countries and donors to work together to manage resources on the basis of desired results, and to use information to improve decision making. The report uses one criteria to assess this principle:

- Has Zambia established a cost-effective results-oriented reporting and assessment systems?

There is no cost-effective results-oriented reporting and assessment system for health research. However such systems exist for the health sector. The NHSP includes a set of indicators. Bi-annual reviews of the Performance Assessment Framework, include indicators for the whole development plan.

The NHSP forms the basis for an annual action plan that is agreed upon by all stakeholders. Weekly monitoring and evaluation meetings, that include both government and donors, are held every Wednesday. This provides a mechanism for monitoring inputs and outputs based on the Health Management Information System (HMIS) data e.g. on maternal mortality, immunization, etc. Other indicators are measured as part of the Demographic Health Surveys and are linked to the MDGs.

### **5.6. Mutual accountability**

Mutual accountability implies that donors and partner countries are accountable to each other for the use of development resources. This requires Governments to improve their accountability systems and donors to be transparent about their contributions. The report uses one criteria to assess this principle:

- Has Zambia a mechanism permitting joint assessment of progress in implementing agreed-upon commitments on aid?

There is no mutual accountability system specific to health research as it is the case for the health sector. The MoH leads a joint annual review in which the MoH and the different donor agencies go out to the districts together. This provides a good opportunity for locally based agencies to have their headquarters representatives join MoH and donor representatives in the field to monitor progress on agreed upon activities.

## 6. Conclusion

The Government of Zambia has kept health research on the agenda even in the face of competing priorities. For several years, the NHRAC within the MoH has been working on the strengthening of the National Health Research System. The national research conference that is now being organized provides a useful platform for sharing research and its findings. Developing a dedicated office and full time staff to facilitate effective management of health research could further strengthen the NHRAC.

The capacity within MoH could be strengthened to allow effective execution of its role in coordinating health research; setting priorities, guidelines and policy framework; and linking effectively with the NCST. The current legal framework, provided through the Science and Technology Act, does not effectively link into other Sectoral Acts. This is an area that may require further attention.

A strategic plan for health research, including strategies for managing a health research priority setting process, could facilitate donor alignment to the country's health research needs. Where donors fund research institutions directly, a requirement for alignment to country priorities may be considered.

Increasing the consultations between donors and the health research stakeholders including researchers, communities and policymakers, is another strategy that can be used.

Improving communication regarding available health research funding, i.e. through open calls for proposals to allow all interested parties to participate in an open competitive process, can also be considered.

The Synthesis Report of the AHA Study (available from: [www.cohred.org/AHA](http://www.cohred.org/AHA)) provides a further analysis of the opportunities and challenges for alignment and harmonization in health research support, building upon the results of all five country studies collectively.

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<http://www.oecd.org/dataoecd/11/41/34428351.pdf>

## Annex 1

### List of stakeholders Interviewed

Structure	Name and Position
<b>Government</b>	
Ministry of Health	Godfrey BIEMBA
National Science and Technology Council	Dennis M. WANCHINGA Executive Secretary
National Health Research Advisory Committee (NHRAC)	Mubiana MACWAN'GI Secretary
<b>Research Institutions</b>	
University of Zambia School of Medicine	Yakub F. MULLA Dean
Tropical Diseases Research Center	Emmanuel KAFWEMBE Director
<b>NGOs</b>	
Foundation 50	Sekelan BANDA Founding President
The Zambia Forum for Health Research	Joe KASONDE Director
CHESSORE	T. J. NGULUMBE Director
	Mary TTUBA Acting Director, Social Science Department
<b>Donors</b>	
Canada	Sandy CAMPBELL Project Coordinator, Research Matters
Sweden	Jane MILLER
United Kingdom	Audrey MWENDAPOLE Health, HIV and AIDS Advisor

## Annex 2

### List of projects financed by donors involved in the AHA study (Not exhaustive)

#### UNITED KINGDOM (DFID)

Title / Year	Objectives	Primary recipient	Budget	Comments
<b>Multilateral project</b>  The Mental Health and Poverty Project: Mental health policy development and implementation in four African countries Ghana, South Africa, Uganda, Zambia 2005 - 2010	To provide new knowledge regarding comprehensive multi-sectoral approaches to breaking the negative cycle of poverty and mental ill-health	Department of Psychiatry and Mental Health, University of Cape Town	Total Cost to DFID: £2,198,552	Collaborating Institutes: University of Zambia; Kintampo Health Research Centre (KHRC); Department of Mental Health and Substance Dependence, World Health Organization; African Regional Office, World Health Organization (AFRO); Nuffield Centre for International Health & Development, University of Leeds (NCIHD); University of KwaZulu-Natal; Human Sciences Research Council, Durban (HSRC); Institute of Psychiatry, King's College London; Faculty of Medicine, Makerere University
<b>Multilateral project</b>  Microbicides to Prevent HIV infections - Microbicides Development Programme (MDP) 4 countries: South Africa, Uganda, United Republic of Tanzania, Zambia 2001 - 2009	A research and development programme to discover Microbicides to prevent HIV infections	Medical Research Council Clinical Trials Unit - UK (MRC-CTU)	Total Cost to DFID: £39,800,000	

#### CANADA (IDRC)

Title / Year	Objectives	Primary recipient	Budget	Comments
HIV/AIDS Country Monitor Studies		Centre for Global Development	CAD \$720,200	
Equity Gauge Zambia: Enhancing Governance, Equity and Health		Centre for Health Science and Social Research (CHESSORE)	CAD \$340,700	
Video-Voice Project (Zambia)		Centre for Health Science and Social Research (CHESSORE)	CAD \$25,000	
Fellowship Program African Health Research Forum—Phases I, II		International Development Research Centre and Kenya Methodist University	CAD \$764,285	

## Annex 3

### NHRS framework

COUNCIL ON HEALTH RESEARCH FOR DEVELOPMENT (COHRED)

# FRAMEWORK FOR DEVELOPING A NATIONAL HEALTH RESEARCH SYSTEM

USING HEALTH RESEARCH TO IMPROVE POPULATION HEALTH, HEALTH EQUITY, AND DEVELOPMENT.

- ▶ The starting point for strengthening a country's health research system is to have **a clear picture of the current state of health research** – and the areas where development should be targeted.
  
- ▶ Using this view, countries can apply various approaches, tools and methods to start **a strategy of system strengthening**.

Stage of development	Actions needed
<b>Basic requirements - socio-political environment</b>	
0. Political commitment to health research	Advocacy, awareness, data and discussion.
0. Political & socio-economic climate human rights	human rights respect & investment friendly.
<b>Level 1 needs – a research-conducive environment</b>	
COHRED's framework, developed in work with many developing countries.	
1. Credibly set and regularly updated health research priorities	Priority setting and updating
2. Health research policy framework	Developing policies/policy framework for research and health research
3. Research management office/mechanism	Exploring mechanisms and structures appropriate to countries' existing structures and aspirations for research.
<b>Level 2 needs - Research implementation</b>	
4. Human Resources for Health Research	Developing a medium and long-term HR-HR strategy and plan.
5. Stable, predictable research financing	Developing medium-long term health (health) research financing mechanisms, including donor alignment and harmonization.
<b>Level 3 needs – Optimizing the system</b>	
6. Improving health research system components	for example: - Research ethics. - Research communication, including evidence to policy & practice. - Peer review vs committee review. - Merit-based promotion system. - Community demands for research. - Monitoring & evaluation of impact . - Health systems research needs. - Good research contracting . - Technology transfer arrangements. - Intellectual property rights. - Institution building.
<b>Level 4 needs – Integrating the national system internationally</b>	
7. Collaborative arrangements	- bilateral - regional - international - organisations - donors / research sponsors





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[www.cohred.org](http://www.cohred.org)



**REPUBLIC OF ZAMBIA**

**STRATEGIC PLAN FOR MINISTRY OF SCIENCE,  
TECHNOLOGY AND VOCATIONAL TRAINING  
2003 – 2007**

**Prepared By:  
Ministry of Science, Technology and Vocational Training  
LUSAKA**

**September 2002**

## Table of Contents

<b>FOREWORD .....</b>	<b>3</b>
<b>1.0 INTRODUCTION.....</b>	<b>5</b>
<b>1.1 BACKGROUND .....</b>	<b>5</b>
<b>1.2 PLAN COVERAGE .....</b>	<b>7</b>
<b>2.0 ENVIRONMENTAL ANALYSIS.....</b>	<b>9</b>
<b>2.1 EXTERNAL ENVIRONMENTAL ANALYSIS.....</b>	<b>9</b>
<b>2.2 INTERNAL ENVIRONMENTAL ANALYSIS .....</b>	<b>12</b>
<b>2.3 IDENTIFICATION OF STRENGTHS, WEAKNESSES, OPPORTUNITIES AND THREATS (SWOT ANALYSIS) .....</b>	<b>14</b>
<b>2.3 CLIENTS AND THEIR NEEDS .....</b>	<b>25</b>
<b>2.4 STRATEGIC/CORE ISSUES.....</b>	<b>27</b>
<b>3.0 MISSION STATEMENT .....</b>	<b>28</b>
<b>4.0 GOAL STATEMENT.....</b>	<b>28</b>
<b>5.0 OBJECTIVES, STRATEGIES AND OUTPUT INDICATORS.....</b>	<b>29</b>
<b>6.0 PRE-CONDITIONS .....</b>	<b>37</b>
<b>7.0 GENERAL ASSUMPTIONS .....</b>	<b>37</b>
<b>8.0 LINKING THE STRATEGIC PLAN TO THE BUDGETING PROCESS.....</b>	<b>38</b>

## **FOREWORD**

*This publication is the culmination of meticulous efforts by the senior management of the Ministry of Science, Technology and Vocational Training (MSTVT) at a workshop held at Mukuba Hotel, in Ndola from 25<sup>th</sup> to 31<sup>st</sup> August, 2002.*

*Senior management and key personnel of the Ministry including stakeholders from its statutory bodies attended this workshop. This workshop was intended to draw up a Strategic Plan that would guide the Ministry's operations and interactions with its various stakeholders. Covering the period January 2003 to December, 2007 the Strategic Plan is intended to be both responsive and proactive as well as withstand the various challenges that the vigour of time will visit upon the Ministry internally and in its wider local and international perspective.*

*The Ministry of Science, Technology and Vocational Training is a pivotal Institution in the affairs of this country as it carries the responsibility of articulating and implementing Zambia's Science, Technology and Vocational Training Policy. The Ministry facilitates the country's interaction with the International Community to fulfil its principal mandate of developing a national scientific and technologies capacity and provide highly skilled human resources for increased productivity in the economy. To effectively fulfil this lofty mandate the workshop developed this Strategic Plan, which interalia, defines the mission, goals objectives and activities of the Ministry. The Plan is therefore intended to act as a guiding framework to enable the Ministry discharge its functions in a more focused and effective manner.*

*The review and refinement of the initial Plan became necessary due to new development Science, Technology and Vocational Training and Entrepreneurship that took place. These developments were of a political, economic, social, cultural and environmental nature. It, therefore, became imperative to review the Plan so that it could continue providing rational guidance to the functions and operations of the Ministry. The revised Plan is therefore, complementary to the first one.*

*While lauding the commendable efforts of the Senior Management Team in producing this comprehensive document, such commendation would not be complete without mentioning the input of the various stakeholders who made constructive comments and critiques on the operation of the Ministry. I only hope that arising from your observations we shall further enhance the quality of our interaction to mutual benefit. Special thanks should also to the dedicated and very helpful team from the Management Development Division at Cabinet Office who not only facilitated the workshop, but also provided useful and*

*pertinent guidance to its deliberations and work plan. My Ministry is equally indebted to the Public Service Capacity Building Project (PSCAP) for its financial support that played a significant role in the whole process.*

*To all members of staff at the Ministry of Science, Technology and Vocational Training my message to you is that this is ‘your document’ I implore you all, regardless of your Department or Section, to read this document in its entirety and adhere to its contents otherwise the labour and spirited effort that went into its production shall be in vain. Let us focus on our objective of better service to our clients and above all to mother Zambia. The successful implementation of Science and Technology and the provision of Technical Education and Entrepreneurship Training will be needlessly tortuous if we do not give this document the attention and action that befits it.*

*We are all but various cogs of one wheel that would not move smoothly if one cog did not play its role. Therefore, our vision of success demands from us a disposition of team work, which can only bear fruit if each of us understands what is expected of our Ministry, ourselves and indeed our colleagues. That is why this document is before you.*

*Hon Abel M. Chambeshi, MP*

**MINISTRY OF SCIENCE, TECHNOLOGY & VOCATIONAL TRAINING**

13 March 2003

## **1.0 INTRODUCTION**

### **1.1 Background**

- 1.1.1 The Ministry of Science, Technology and Vocational Training (MSTVT) is one of the Government Institutions, that is expected to play a major role in the socio-economic recovery programme of the country aimed at achieving sustainable economic growth and improving the well being of the people of Zambia. MSTVT is expected to provide an enabling environment for active participation of both the public and private sectors in the development and application of science and technology and the provision of technical education, vocational and entrepreneurship training.
- 1.1.2 Accordingly, MSTVT is required to provide and monitor the implementation of the policy and legal framework that will facilitate the participation and contribution of the private sector in the development and application of science and technology and the provision of technical education, vocational and entrepreneurship training.
- 1.1.3 In line with the Government's general policy framework and according to Government Gazette Notice Number 46 of 24<sup>th</sup> January, 1992, MSTVT is responsible for the following portfolio functions:
- Policy and administration of Technical Education and Vocational Training;
  - Trade Training Institutes;
  - Technical Colleges;
  - Technologist Training;
  - Art Training and Promotion;
  - Secondary Technical Teacher Training;
  - Curriculum Development; and
  - Co-ordination of Technical Training.
- 1.1.4 In addition, MSTVT is also responsible for the following statutory bodies and institutions:
- Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA);
  - National Institute for Scientific and Industrial Research (NISIR);
  - National Science and Technology Council (NSTC); and
  - National Technology Business Centre (NTBC).
- 1.1.5 In effectively pursuing these portfolio functions, and as part of the restructuring of the Public Service under the Public Service Reform Programme (PSRP) that is aimed at improving performance and service delivery, MSTVT developed a five year Strategic Plan in 1995. The Plan defined, among other things, MSTVT's clients and their needs, the

Mission, Goal, Objectives and their corresponding activities. The Mission Statement was:

**“Promotion of science and technology and vocational training for sustainable economic growth in the formal and informal sectors.”**

The Goal Statement was:-

**“To develop a national scientific and technological capacity and provide highly skilled human resources for increased productivity in the economy.”**

- 1.1.6 The thrust of the Strategic Plan was for the Ministry to play a facilitative role in ensuring the development and application of science and technology and the provision of quality technical education, and vocational training in order to enhance productivity in the country. Through this Strategic Plan, the Ministry in collaboration with its stakeholders was to provide an appropriate policy framework to guide the operations, development and application of science and technology and the provision of technical education and vocational training in the country. The Strategic Plan was also meant to facilitate the restructuring of the Ministry is meant in part to facilitate effective implementation of the Strategic Plan.
  
- 1.1.7 Since 1995 when the Strategic Plan for MSTVT was developed, some developments have taken place in the country and key policy decisions have been made by Government which have had a bearing on the structure and operations of the Ministry. These include:
  - Enactment of the Science and Technology Act No. 27 of 1997.
  - The transformation of the National Council for Scientific Research into the National Institute for Scientific and Industrial Research in 1998.
  - Enactment of the Technical Education, Vocational and Entrepreneurship Training Act No. 13 of 1998.
  - Creation of the Department of Vocational Education and Training in 1999.
  - Establishment of Management Boards in Training Institutions in the Year 2000.
  - Creation of the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA) in the Year 2000.
  - Establishment of the National Science and Technology Council in the Year 2000.
  - Formulation of the Technical Education Vocational and Entrepreneurship Training (TEVET) Development Programme in 2001.
  - Establishment of the National Technology Business Centre in 2001.

- 1.1.8 The developments highlighted above have resulted in the strengthening of the legal framework for the science and technology, and the technical education, and vocational training sectors, enabling the Ministry to effectively play its regulatory role. In addition, the reforms have resulted in the rationalisation of the science and technology systems and decentralisation of the management of training institutions under the Ministry.
- 1.1.9 These developments necessitated the review of the 1995-2000 Strategic Plan for MSTVT in order to re-align it with the changes in the environment and enable MSTVT to further improve the quality of service delivery to its clients. The revised Strategic Plan is also meant to enable MSTVT to effectively contribute to poverty reduction, which is the nation's top priority, through effective application of science and technology.
- 1.1.10 Consequently, a Strategic Plan review workshop was held from 25<sup>th</sup> to 31<sup>st</sup> August, 2002 at Mukuba Hotel, Ndola. The workshop was attended by Senior Management and key personnel of MSTVT and stakeholders from its statutory bodies and was facilitated by Management Development Division/Cabinet Office with financial support from the Public Service Capacity Building Project (PSCAP).
- 1.1.11 The revised Strategic Plan is, therefore, an outcome of the workshop. It is intended to revitalise the operations of MSTVT in order to enable it contribute effectively to improved productivity and application of science and technology for sustainable growth of the national economy. It defines the MSTVT's mission (vision of success), goal (specific target), objectives (what it intends to achieve within the next five years), and maps out strategies (means) to achieve the objectives and ultimately the mission.

## **1.2 Plan Coverage**

- 1.2.1. The revised Strategic Plan covers the following:

- (a) **Environmental Analysis**

This is an analysis of both the internal and external environment in which MSTVT has been operating in the last five years and is expected to operate in the next five years. The analysis takes into account the performance of MSTVT in the last five years and the major socio-economic and political developments that have taken place which have had an impact (positive or negative) on its operations and which may be of significance in future.

From this analysis, MSTVT's Strengths and Weaknesses as well as Opportunities and Threats (SWOT) are identified. In addition, MSTVT's clients and their needs that it is expected to be

addressing are defined and the strategic/core issues that need to be resolved in order to make significant improvements in the quality of service delivery are discussed.

(b) **Mission Statement**

The revised mission statement, justifying the fundamental purpose for the existence of MSTVT in the next five years is presented and discussed. It provides for a new vision of success that MSTVT will strive towards and a framework within which management decisions will be made and programmes, projects and activities will be undertaken in the next five years.

(c) **Goal Statement**

The goal statement, projecting strategically what MSTVT intends to practically achieve in the next five years and providing it with an operational direction and focus, is redefined in line with the revised mission statement and taking into account the issues raised under the environmental analysis.

(d) **Objectives and Output Indicators**

The revised objectives, which are specific, measurable and result-oriented statements of what MSTVT intends to achieve in the next five years are presented and discussed. The objectives have been revised in line with the revised mission and goal statements and taking into account MSTVT's accomplishments in the last five years, the revised needs of its clients and national priorities.

The revised objectives are accompanied by output indicators, which are products by which the achievement of the revised objectives will be measured. These are also presented and discussed.

(e) **Strategies**

The preferred overall means or courses of action that MSTVT will take in order to achieve the objectives and effectively address the strategic/core issues identified are also presented and discussed, taking into account the SWOT of MSTVT.

(f) **Pre-Conditions**

Factors that are considered to be crucial to the successful implementation of the Strategic Plan and which must, therefore, be in place, are also highlighted. Some of the factors may be outside the control of MSTVT in which case cooperation and support from other institutions and authorities will be critical in

ensuring that an enabling environment is created for the successful implementation of the revised Plan.

**(g) General Assumptions**

The general conditions that should exist at both the organisational level and in the external environment to ensure successful implementation of the revised Strategic Plan are outlined.

**(h) Linking the Strategic Plan to the Budgeting process**

Budgeting is an integral part of the Strategic Planning process. Strategic Plans are implemented by breaking them down into annual departmental and individual work plans. The annual department work plans are costed and form the basis for the ministerial/institutional annual budgeting process. The principles for linking the revised Strategic Plan to the budget and, therefore, for operationalising it, are discussed.

## **2.0 ENVIRONMENTAL ANALYSIS**

MSTVT, like any other government ministry, operates in a dynamic political, economic, social and technological environment. An understanding and appreciation of this environment, both internal and external to MSTVT, is necessary to developing a realistic Strategic Plan to guide the operations of the Ministry in the next five years.

### **2.1 External Environmental Analysis**

2.1.1 One of the major developments that will continue to impact on the operations of MSTVT is the multi-party democracy political dispensation re-introduced in the country in 1991. As this dispensation takes root in the country, divergent views emerge on how best to develop and manage the science and technology and technical education and entrepreneurship training sector. Different key stakeholders, including political parties and trade unions, articulate different policies and ideas for operating the sector. There is need, therefore, for MSTVT to develop and implement effective consultative mechanisms to ensure that programmes designed on the development and application of science and technology and the provision of technical education and entrepreneurship training in the country meet the expectations of the various stakeholders.

2.1.2 Related to multi-party democracy is the growing demand for good governance, both locally and internationally. The people of Zambia and the international community are increasingly assessing and evaluating the effectiveness and efficiency of the Government and its institutions using the good governance

criterion. For MSTVT, this implies that it should embrace the principles of transparency and accountability when mobilising and utilising resources needed to implement the revised Strategic Plan successfully. Furthermore, this requires MSTVT to consult stakeholders and engage them in meaningful dialogue during the implementation of the revised Strategic Plan in order to meet their performance criteria, some of which are based on good governance.

- 2.1.3 In addition to the political environment, the economic environment has a significant bearing on the operations of MSTVT. From 1991, the MMD Government has been pursuing a macro-economic policy framework aimed at enhancing economic stability and growth, and maintaining a stable exchange rate both of which are a pre-requisite to sustainable economic development. The ultimate goal is to reduce the incidence of poverty to about fifty (50) percent and inflation by four (4) percent by 2004 and improve the well being of the people of Zambia.
- 2.1.4 Implementation of this overall macro-economic objective has taken several forms, including the liberalisation of the economy and privatisation of state-owned companies. By October 2001, 258 state-owned companies had been privatised. This has led to a significant expansion of the private sector and a corresponding decline of the public sector. While privatisation and liberalisation have impacted positively on some elements of the economy by allowing Government to concentrate on the provision of collective goods and services to the people of Zambia, it has so far impacted negatively on the development of the science and technology sector in the country. New company owners have preferred importing technologies available on international markets to those developed and adopted locally. There is need, therefore, for MSTVT to identify and implement strategies that will encourage industries to utilise locally developed and adopted technologies in their production processes, and where possible develop technologies that are appropriate to the country.
- 2.1.5 Generally, the performance of the economy has not improved much despite Government efforts aimed at enhancing economic stability and growth. Both negative and positive GDP growth rates have been recorded. Between 1994 and 2001, for example, the growth rate was negative in 1994 and 1995 and positive in 1996, 1997, 2000 and 2001. However, even the positive growth rates recorded have not been sufficient enough to turn the economy around. This has been happening at a time when the country's population is undergoing rapid growth. From 7.2 million in 1990, the population had increased to 10.3 million by the Year 2000. This represents an average growth rate of about 3.2 percent annually. The inverse relationship between the growth rates of GDP and the population has resulted in a decline in the country's

GDP per capita. From US\$ 421.2 in 1991, it had decline to US\$ 402.7 in 1997. The average GDP per capita over this period was US\$ 380. This poses a challenge to MSTVT to develop and promote the application of science and technology by both formal and informal sector enterprises in order to enhance productivity in the country necessary for wealth and job creation.

- 2.1.6 One of the most outstanding economic problems Zambia was facing prior to the implementation of the stabilisation and adjustment programmes was the external debt burden. Despite vigorous attempts at structural adjustment, there has been no significant change in Zambia's external debt situation. From US\$ 7.223 billion in 1990, Zambia's external debt still stood at a staggering US\$ 7.270 billion by December 2001. This is well over ten times Zambia's annual GDP which stood at ZMK 2, 628.9 billion in 2001. The debt per capita currently stands at over US\$700, making Zambia's external debt burden one of the largest in the world today. The challenge to MSTVT is to find alternative ways of mobilising resources necessary to successfully implement the revised Strategic Plan since resources coming from the treasury will be limited and the country will continue to meet its debt obligations though at a reduced rate as provided for under the Highly Indebted Poor Countries (HIPC) initiative.
- 2.1.7 Another economic problem currently facing the country is the balance of payments problem, which emerged in 1975 with the fall in copper prices at the world market. This important macro-economic indicator has remained negative over the years. From minus US\$ 356 million in 1990, the figure had reduced significantly to minus US\$ 139 million by 1997 only to rise again to minus US\$ 221 million in 2000 and to minus US\$355 million in 2001. This has impacted negatively on Governments ability to provide adequate funding to Government ministries, including MSTVT, as Governments' attention has been, sometimes, diverted to improving the balance of payments position at the expense of developmental programmes. The challenge to MSTVT is how to assist the country emerge from these economic doldrums through the use of science and technology and the provision of highly skilled human resources.
- 2.1.8 High unemployment levels in the country have been one of the major consequences of the poor performance of the economy. This has led to a lateral expansion of the informal sector and a significant increase in the incidence of poverty with over 70% of the population being classified as poor. Declining job opportunities in the formal sector coupled with the need to supplement declining formal sector incomes and, thus, maintain accepted living standards, have accelerated the informalisation of production and employment in the country. There is need, therefore for MSTVT to provide informal sector operators with appropriate scientific

knowledge and technologies and entrepreneurship skills to enable them become more productive and, therefore, create more job opportunities and wealth.

- 2.1.9 The HIV/AIDS pandemic is another significant factor that has impacted negatively on MSTVT. It has affected its operations through loss of staff and productive hours due to the frequent absence of officers attending funerals, attending to the sick or themselves being sick. MSTVT needs to intensify HIV/AIDS prevention programmes in the Ministry in order to reduce its negative impact on the operations of the Ministry.
- 2.1.10 MSTVT operations have also been influenced by technological developments. Rapid technological developments mean that MSTVT has to continuously update its equipment in order to be current with global trends in R&D and other operations. This can only be done at great cost. In addition, MSTVT is under pressure to computerise its operations in order to improve the efficiency and effectiveness in service delivery as institutions, including Government ministries, computerise their operations because of the benefits derived from it. However, computerisation in MSTVT is dependant on its ability to acquire and update its information technology facilities and skills, which is an expensive and continuous exercise. The challenge to MSTVT is to determine how best it should effectively benefit from available information technology at optimum cost.

## **2.2 Internal Environmental Analysis**

### **2.2.1 Performance Audit**

In reviewing MSTVT's 1995 – 2000 Strategic Plan, an audit of its performance during the period under review was conducted. The sole objective of the audit was to establish the extent to which MSTVT had implemented its Strategic Plan and the impact this has had on the quality of service delivery to its clients and on the scientific and technological base of the country.

Generally, the performance audit revealed that the 1995 -2000 Strategic Plan was not fully implemented. This means that the mission and goal of MSTVT for the period under review were partially achieved. A number of factors contributed to the Ministry's failure to perform as expected. These included the delay in implementing the new structure for the Ministry, inadequate funding and a critical shortage of specialised staff in some departments, poor salaries and conditions of service, and a general lack of knowledge about the existence of the Strategic Plan among the majority of staff in the Ministry. Despite these limitations, MSTVT was able to implement some activities in the Plan through its specialised departments as follows:

(a) **Administration and Human Resources**

The Administration and Human Resources Department facilitated the production of work plans and annual progress reports for the Ministry and implementing agencies on a yearly basis. Furthermore, the department facilitated the development of job descriptions and specifications for all established posts in the new structure with assistance from Management Development Division. Other important activities undertaken by the department included the development and implementation of training plans, securing funds and procurement of materials for providing logistical support in the Ministry, and facilitating the filling of vacancies in the Ministry. However, the department could not provide actual figures on the staff trained, those that resigned and the number of strategic positions filled in the Ministry.

(b) **Vocational Education and Training Department**

The department conducted tracer studies in Lusaka and Copperbelt provinces and reviewed and strengthened consultative committees between MSTVT and stakeholders on an annual basis. In addition, the department facilitated meetings of the Consultative Committees whenever they were held. The department also mounted HIV/AIDS awareness programmes in the Ministry. In addition, the department updated and procured equipment and tools for Lusaka Trades Training Institute and the Northern Technical College and revised the TEVT Act into the TEVET Act No. 13 of 1998. The department could not directly perform a number of functions such as developing and revising curricula and attaching lecturers to industries during holidays because the department was pre-occupied with the reform process which included the creation of institutional management boards.

Information on the performance of the department was scanty and hindered compilation of a proper account of the department's performance and its impact during the period under review.

(c) **Planning and Development Department**

During the period under review, the Planning and Development Department conducted a survey of existing institutions and produced detailed reports with costing on the training and science and technology sectors. The department also produced annual budgets for procuring necessary tools and training equipment but failed to secure funds to implement the budget. The department established a personnel and student database and facilitated the production of annual reports on the operations of the Ministry.

During the period under review, the Department co-ordinated all Joint Permanent Commissions and Technical Cooperation activities including arranging exchange visits of experts in training and research institutions. The Department also facilitated the rehabilitation of infrastructure and played a major role in planning for the expansion of training provision. During the transition to Management Boards, the Department facilitated the preparation of strategic and business plans for both training and science and technology institutions.

Favourable factors that enabled the department execute the above stated activities included availability of computers. However, the department was unable to achieve all its planned activities including coordinating, monitoring and evaluation of programmes and projects due to inadequate funding and because, during the latter half of the Plan period, the number of its professional staff was reduced from seven to four.

**(d) Department of Science and Technology**

The Department of Science and Technology developed the National Policy on Science and Technology in 1996 and facilitated the enactment of the Science and Technology Act No. 26 of 1997. The Department also facilitated the transformation of the National Council for Scientific Research into the National Institute for Scientific and Industrial Research (NISIR) in 1998 and established the National Science and Technology Council in 2000 and the National Technology Business Centre (NTBC) in 2001. In addition, the Department undertook studies and spearheaded plans to establish training Cum Production Centre for Gemstone processing for small-scale miners, and the National Remote Sensing Centre (NRSC) in 2001.

Although the Department was able to achieve the performance outlined above, it had difficulties in executing a number of activities outlined in the 1995-2000 Strategic Plan. Among others were those relating to enforcement of standards and quality control of technologies and integrating R and D centres existing in other line Ministries under one umbrella. The Department failed to achieve the latter because other line Ministries could not see the advantages of falling under the umbrella of the National Science and Technology Council.

## **2.3 Identification of Strengths, Weaknesses, Opportunities and Threats (SWOT Analysis)**

A number of factors provided MSTVT with opportunities to perform better while others limited its ability to fully deliver on its Mandate. These factors may still be significant for MSTVT in future and they include:

**(a) Strengths**

Among the major strengths of MSTVT are the following:

**i) Commitment to Reforms by Management**

MSTVT has been implementing a number of reforms since 1995 in the context of the Public Service Reform Programme. These reforms have taken several forms and magnitudes and include the establishment of the Technical Education, Vocational and Entrepreneurship Training Authority (TEVETA), the creation of the National Science and Technology Council and the devolution of power to Management Boards of Training Institutions. The commitment to reforms exhibited by management in the Ministry contributed greatly to the success of the reforms implemented. This commitment will enable the Ministry effectively implement the revised Strategic Plan and the remaining aspects of the Public Service Reform Programme. There is need, therefore, to ensure the retention of a visionary and competent management team if MSTVT has to effectively implement its revised Strategic Plan and realise its vision.

**ii) Status and Profile of the Ministry**

MSTVT has the overall mandate on all matters regarding science, technology, technical education, vocational and entrepreneurship training in the country. This position enables MSTVT to take the lead and determine priorities in the development and application of science and technology in the country and in the provision of quality technical education, vocational and entrepreneurship training in consultation with stakeholders. Furthermore, the importance and status of science and technology portfolio in national development should enable the Ministry to receive a lot of attention from Government which views it as a vehicle to sustainable national development.

**iii) Availability of Infrastructure**

MSTVT has physical infrastructure throughout the country, which makes it possible for the Ministry to discharge its functions. This infrastructure includes colleges, laboratories, and Research and

Development stations. Through this infrastructure, the Ministry has been able to conduct extensive research and development activities in science and technology as well as undertake various forms of technical education, vocational and entrepreneurship training to meet some of the needs of the economy.

**(iv) Good Working Environment**

MSTVT has a relatively good working environment in terms of physical infrastructure and communication facilities especially at the Ministry Headquarters. With this conducive working environment, officers will be able to perform their functions relatively well. This will facilitate the full implementation of the revised Strategic Plan.

**(v) Availability of Legal and Policy Framework**

MSTVT facilitated the enactment of the Science and Technology Act of 1995 and the Technical Education and Entrepreneurship Act No. 26 of 1997 and the Technical Education, Vocational and Entrepreneurship Training Act No. 13 of 1998. In addition, the Ministry has developed the Technical Education, Vocational and Entrepreneurship Training (TEVET) Policy of March 1996 and the Science and Technology Policy. These pieces of legislation and policies have provided MSTVT with an appropriate legal and policy framework necessary for it to effectively implement its mandate and the revised Strategic Plan and guide other stakeholders in the sector.

**(vi) Availability of Institutional Framework for R&D and TEVET**

Research and Development (R&D) and Technical Education and Entrepreneurship Training are the major functions of MSTVT. In order to effectively execute these functions, MSTVT has established an appropriate institutional framework which includes the Technical Education and Vocational Training Authority (TEVETA), National Institute for Scientific and Industrial Research (NISIR), National Science and Technology Council (NSTC) and the National Technology Business Centre (NTBC) and institutional management boards. There is need for MSTVT to undertake continuous human and institutional capacity building in order for this

institutional framework to contribute effectively to the attainment of the objectives for which it was established.

**vii) Effective Coordination with Co-operating Partners**

MSTVT has put in place mechanisms that have resulted in effective collaboration between the Ministry and co-operating partners. This has resulted in MSTVT receiving increased financial and technical support from the co-operating partners. Continued effective collaboration with cooperating partners will ensure provision of supplementary resources for the implementation of the revised Strategic Plan. MSTVT should take advantage of this support by channelling the resources provided to build capacity in priority areas, such as human resource development, infrastructure rehabilitation and provision of relevant tools and equipment. Furthermore, the Ministry should ensure continued compliance with the principles of transparency and accountability in the application of the support from cooperating partners for purposes of effective utilisation and continued support and goodwill.

**viii) Availability of Critical Human Resources**

MSTVT has personnel who are technically qualified in most of the disciplines related to the operations of the Ministry. In addition, the personnel are also experienced and capable of undertaking the tasks in their respective portfolios. The staff is also committed to their duties. In this regard, the Ministry should continuously upgrade the skills of its human resources to keep abreast with changes in the environment and continuously improve on its performance. Furthermore, the Ministry should identify and provide incentives to its personnel in order to keep them motivated and committed.

**b) Weaknesses**

Notwithstanding the strengths highlighted above, MSTVT has weaknesses, which impacted negatively on the implementation of the 1995-2000 Strategic Plan. These need to be addressed in order for the revised Plan to be effectively implemented. The following are the weaknesses identified for MSTVT: -

**(i) Inadequate Implementation of the Inspectorate System**

MSTVT has developed an effective inspectorate system for enforcing standards in both Government and private training institutions in order to ensure the provision of quality training. However, the inspectorate system has not been adequately implemented resulting in poor standards of training being offered in both Government and private training institutions. There is need, therefore, for MSTVT to adequately implement the inspectorate system in order to improve the quality of training in both Government and private training institutions and effectively meet the needs of the labour market.

**(ii) Mismatch Between Training Provided and Informal Sector Needs**

The technical education, vocational and entrepreneurship training provided by Government training institutions under MSTVT is expected to meet the requirements of industry in both the formal and the informal sectors. However, there is a mismatch between the knowledge and skills provided in the training institutions and the demands of the informal sector operators. There is need, therefore, for training institutions under MSTVT to conduct regular and thorough needs assessment exercises of informal sector knowledge and skills requirements in order for the training institutions to provide training relevant to the dynamic requirements of the informal sector and industry in general.

**(iii) Inadequate Office Accommodation**

MSTVT is faced with a shortage of office accommodation, resulting in some units in the Ministry operating in rented accommodation and offices carrying out similar functions being geographically isolated from each other. This has prevented effective coordination of the activities and weakened teamwork in the Ministry. There is need, therefore, for management in MSTVT to find adequate office accommodation for most of its departments, if not all, under one roof to enhance coordination and teamwork in the Ministry.

**(iv) Poor Commercialisation of R&D Products**

One of the major functions of MSTVT is to undertake research and development activities in science and technology. Consequently, the Ministry has established the National Institute for Scientific and Industrial Research to undertake research and development activities. However,

the institutions have not been proactive in their approach to R&D, resulting in very few activities being commercialised. There is need, therefore, for MSTVT to sensitise the management of R&D institutions on the need to be proactive in their work. MSTVT should set targets against which the performance of the institutions can be measured.

**(v) Inadequate Capacity to Manage R&D Systems**

The R&D systems that have been established under MSTVT have not adequately responded to the developmental needs and demands of the new socio-economic environment in the country. Therefore, MSTVT needs to build human and institutional capacity to manage R&D if the country is to benefit from the R&D institutions it has created.

**(vi) Absence of a Continuous Induction System for Management Boards**

MSTVT has established Management Boards to manage the operations of all Government training institutions under the Ministry. This has been done in order to allow training institutions respond effectively to local labour markets by shortening the decision making process and involving the local community in the management of the institutions. Despite these good intentions, however, the operations of the Management Boards have sometimes been in conflict with Government policies and guidelines. This is because members of the Management Boards have not been regularly inducted to enable them understand their role. There is need, therefore, for MSTVT to hold regular induction and re-orientation programmes for members of Management Boards to ensure effective implementation of Government policies and the smooth operations of the training institutions.

**(vii) Low Priority accorded to Research and Development**

Although MSTVT has put in place a number of measures including an institutional and policy framework for R&D, the Government still accords low priority to research and development as evidenced from the low funding levels allocated to this portfolio, among other things. This has resulted in lack of appropriate technologies being developed and adopted for use by both large and small-scale industries in the country. There is need for MSTVT to prioritise R&D in terms of funding and programming in order to ensure that appropriate technologies are developed and adopted for use by both large and small-

scale industries in the country to increase their productivity and competitiveness.

**(viii) Inadequate Provision of Information**

The functions being performed by various departments and units under MSTVT are critical to the socio-economic development of the country. Despite the various reforms and programmes that have been implemented in the Ministry, there is a general lack of public knowledge on these activities. This has impacted negatively on the status and profile of science and technology in the country. There is need, therefore, for MSTVT to establish effective information management and dissemination mechanisms in order to provide relevant information to the general public and raise awareness on and appreciation of the operations of the Ministry.

**(ix) Insufficient Consultative Mechanism with stakeholders**

The effective performance of MSTVT is dependant on a number of key factors, including the approval of and involvement of its various stakeholders in its programmes and activities. These stakeholders have to be consulted whenever important programmes and activities are being considered for implementation. However, this has not always been the case for MSTVT, resulting in some aspects of the reforms not being effectively executed. There is need, therefore, for MSTVT to establish and implement effective consultative mechanisms with its stakeholders in order to enable them contribute positively to the performance of the Ministry.

**(x) Lack of Rationalisation in Science and Technology**

MSTVT is mandated under the new Science and Technology institutional framework to coordinate and monitor policy implementation in R&D in order to maximise returns on investment by not duplicating efforts and resources by R&D institutes. To achieve this, the National R&D System needs to be rationalised and brought under one umbrella. Due to inadequate legal provision under the ACT, the rationalisation of the R&D system is yet to be realised. There is need, therefore, to strengthen the necessary legal provisions in the Science and Technology Act No. 26 of 1997 to enable the Ministry rationalise the use of R&D facilities and effectively coordinate efforts of the various R&D centres and ensure optimisation of returns on investment.

**(xi) A Weak National Qualification Framework**

The number of institutions offering various types of training and at different levels has continued to grow in the country. Although this is a positive development in terms of increased supply of training to school leavers, it has created a number of problems including difficulties in establishing equivalences and lack of progression in training. This problem has been compounded by the existence of a weak national qualification framework in the country which has resulted in poor standardisation of training and inability to accredit prior learning, which has in turn resulted in wastage of human resources. There is need, therefore, for MSTVT to strengthen the national qualification framework to facilitate standardisation of training, establishment of equivalences in qualifications, and enhance training progression and accreditation. This will also minimise human resource wastage in the country.

**(xii) Poor and Dilapidated Physical Infrastructure**

Most of the infrastructure in MSTVT, both in R&D and training institutions, is in a poor state, making it not conducive for the purposes they were created. There is need, therefore, for MSTVT to develop and implement a comprehensive rehabilitation programme in order to improve the state of the infrastructure in the Ministry and enhance the morale of the workers and trainees.

**(xiii) Poor Information Management System**

MSTVT has generated and received a lot of information in support of its administrative and other functions from the time it was established. These records are necessary for effective decision making and serve as an institutional memory among many other uses. However, MSTVT is unable to benefit fully from this wealth of information because it is poorly managed, resulting in loss and difficulties in retrieving the records. There is need, therefore, for MSTVT to establish a modern information management system to enhance information management in the Ministry.

**(xiv) Lack of Effective Policy Implementation Monitoring Mechanisms**

MSTVT has developed a number of policies including the Technical Education, Vocational and Entrepreneurship Training Policy aimed at guiding operations in the sector. These policies are being actively implemented by the

Ministry and other players in the sector. However, absence of effective policy implementation monitoring mechanisms has made it difficult for MSTVT to effectively evaluate the impact of these policies. There is need, therefore, for MSTVT to develop and implement effective policy implementation monitoring mechanisms to enable it evaluate its performance.

**(c) Opportunities**

A number of positive factors (opportunities) exist in the environment that MSTVT could take advantage of in order to reduce, if not completely eliminate the weaknesses highlighted above and fully implement its revised Strategic Plan. The opportunities include the following:

**i) Growing Informal Sector**

The informal sector in the country has been growing rapidly as the formal sector continues to shrink due to various reasons including implementation of IMF and World Bank inspired and sponsored austerity measures. Small scale industries constitute a major component of informal sector activities which could provide a ready market for the skills training provided and technologies developed and adopted in the country by MSTVT. These technologies are likely to be relatively cheaper than those available on international markets and therefore affordable to informal sector operators. There is need, therefore, for MSTVT to work closely with informal sector operators to enable it identify their technology needs and develop and adopt appropriate technologies for the informal sector.

**(ii) Community and Local Industry Participation in the Provision of Training**

As part of the restructuring process, MSTVT has established Management Boards comprising membership from the community and local industry to run the operations of training institutions under the Ministry. This has enabled the community and local industry to be directly involved in running the affairs of training institutions. MSTVT should take advantage of the establishment of Management Boards to ensure that the training provided is of high quality and relevant to the needs of the community and local industry. In addition MSTVT should take advantage of this development to devote its energies and other resources to other priority areas such as R&D in the development, adoption and application of science and technology for local consumption.

### **(iii) Support from Stakeholders**

MSTVT receives a lot of support from its stakeholders which includes financial assistance, approval of its various programmes and active involvement in the decision making process and programme implementation. The Ministry should take advantage of this support from stakeholders to complete the remaining aspects of the reform process and enhance its performance. In addition, the Ministry should develop and implement mechanisms that will facilitate meaningful and coordinated harnessing of the support from stakeholders.

### **(iv) Donor goodwill**

MSTVT requires adequate resources for it to promote the development and application of science and technology and to provide quality and relevant technical education and vocational and entrepreneurship training. There is currently good will from donors to support the operations of the Ministry. MSTVT should take advantage of this donor support and ensure effective utilisation of and accountability for any assistance received.

## **(d) Threats**

Besides the positive factors that MSTVT can take advantage of, there are negative factors (threats) in the external environment that may militate against the successful implementation of the revised Strategic Plan. These include the following:

### **(i) Continued poor salaries and Conditions of Service**

MSTVT, like any other Government Ministry, is faced with the problem of poor salaries and conditions of service. This has tended to demoralise officers, affecting their performance. There is need for Government to critically review the situation in order to improve the performance of officers. In addition MSTVT should identify and implement incentives that can motivate its employees, such as linking labour-day awards and granting of vacation leave and the various types of loans to the performance of employees.

### **(ii) Inadequate and untimely funding**

The continued poor performance of the economy presents a major threat to the operations of MSTVT. Over time, the operations of the Ministry have been severely affected by untimely and inadequate funding caused mainly by the weak Government resource base resulting from the poor performance of the

economy. MSTVT may continue to experience inadequate and erratic funding from the Treasury as the economy continues to perform poorly. There is need for MSTVT to explore other possible ways and means of mobilising additional resources to supplement Government funding.

**(iii) Government Liberalisation and Decentralisation Policies**

The liberalisation of the economy has increased the number of private investors in the economy who prefer international technologies to those that are developed locally by MSVT. In addition, many private investors are not interested in supporting public R&D institutions.

The decentralisation policy of the Government has led to the establishment of Management Boards to run public training institutions. Despite the many advantages offered by this approach, it has brought a number of problems including inability of some Boards to provide quality and visionary leadership to their institutions and conflict of interest between the Boards and MSTVT.

It is imperative that MSTVT sensitises private investors on the importance of supporting local R&D institutions in order to achieve sustainable socio-economic development. In addition MSTVT should provide incentives to the private sector to encourage them to support local R&D initiatives. To minimise the negative impact of decentralisation of the running of public training institutions, MSTVT should develop and implement a comprehensive induction and re-orientation programme for members of the various management boards. Furthermore, the Ministry should develop and implement monitoring mechanisms to ensure adherence to established standards by the various training institutions under management boards.

**(iv) Low Priority Accorded to Science and Technology by Government**

Government has accorded science and technology low priority despite realising that it is a vehicle to national development. This has resulted in low levels of funding allocated for the development and application of science and technology and a fragmented institutional framework for R&D, making it difficult to coordinate the various public institutions involved in the development and application of science and technology. There is need, therefore, for Government to prioritise science and technology in terms of funding and institutional capacity building if the sector has to contribute positively to the sustainable socio-economic development of the country. Government should also streamline the institutional framework

for coordinating R&D to minimise duplication of effort and the thin spread of the meagre resources.

#### **(v) HIV/AIDS Pandemic**

MSTVT has not been spared from the negative impact of the HIV/AIDS Pandemic which is prevalent in the country. The pandemic poses a threat to the delivery of quality services by the Human Resources in the Ministry. This is as a result of loss of experienced and qualified personnel due to illness and subsequent death as well as lost man hours due to sickness and other incidental factors. There is need for MSVT to mount vigorous HIV/AIDS awareness campaigns to minimise its devastating effects on the performance of the Ministry.

### **2.3 Clients and Their Needs**

In the light of the foregoing, key clients of MSTVT and their needs that it is expected to address in the next five years have been reviewed as follows:

#### **i) Training Providers**

Training providers expect MSTVT to:-

- Provide policy guidelines, legal framework, pedagogical support, capacity building, quality assurance mechanism, consultancy and certification services; and
- Undertake curriculum development.

#### **ii) Industry**

Industry expects MSTVT to:-

- Facilitate linkages with R&D institutions and training providers and institutions, access to financial resources, markets and legal services; and
- Provide skilled human resources, tax incentives, technological innovations, policy and legal framework, consultancy services, qualification framework, common user facilities, personalised training, access to financial resources, Information, packaged technologies and Petty Patents.

**iii) Trainees**

Trainees expect MSTVT to:-

- Provide quality training, accreditation, career guidance, conducive learning environment, financial support, HIV/AIDS counselling, and clear progression path (qualification framework); and
- Facilitate Job placement and industrial attachment.

**iv) Community**

The community expects MSTVT to:-

- Provide training opportunities, appropriate technology and information on TEVET and science and technology;
- Produce quality products; and
- Ensure equity in the provision of services.

**v) R&D Institutions**

R&D institutions expect MSTVT to:-

- Provide a policy and legal framework, financial support and Patents protection;
- Undertake advocacy, promotion activities and collaborative research; and
- Facilitate capacity building, direction in research (agenda) and linkages with industry and training providers.

**vi) GRZ**

Government expects MSTVT to:-

- Provide qualified human resources, effective R&D services, information, productivity benchmarks in science and technology/TEVET;
- Contribute to Improved socio-economic development; and
- Advise on R&D and skills training.

**vii) Agriculture and Other Sectors**

The agricultural industry expects MSTVT to:-

- Provide R&D services, skills training, science and technology products, and biotechnology for increased productivity; and
- Facilitate improvement of soil conservation and fertility.

### viii) Statutory Bodies

Statutory bodies expect MSTVT to:-

- Provide policy guidance, information, legal framework, financial support;
- Undertake advocacy activities; and
- Facilitate linkages with regional and international organisation.

## 2.4 Strategic/Core Issues

In addition to identifying the Strengths, Weaknesses, Opportunities and Threats as well as the clients of MSTVT and their needs, two strategic/core issues have been identified which should be addressed if MSTVT is to build a scientific and technological base that will contribute effectively to improved productivity and sustainable growth of the national economy . The following have been identified as strategic/core issues for MSTVT:-

### (a) Lack of a National Agenda on Science and Technology

Despite Government realising the importance of science and technology as critical factors in achieving sustainable national socio-economic development and improved quality of life, no attempts have been made to develop and implement a national agenda on this important portfolio. This has impacted negatively on the sector since lack of a national agenda has resulted in a haphazard and fragmented approach in the development and application of science and technology in the economy. There is urgent need, therefore, for MSTVT to initiate and facilitate the development and implementation of a national agenda on science and technology in the country. Some of the issues the national agenda should address include:

- Lack of a policy framework on how the country should deal with new and emerging technologies;
- Absence of a national policy on information and communication technology,
- Lack of coordinated research and development; and
- Lack of a technology policy in the country.

### (b) Limited Mandate of the Ministry

The current mandate for MSTVT restricts it to the provision of training up to semi-professional level and does not embrace all R&D activities in science and technology. This has prevented the Ministry from undertaking training activities aimed at producing highly skilled human resources in science and technology at degree level. In addition, the narrow scope of the Ministry in science and technology has led to the thin spread of

this function across various government Ministries and institutions, making effective coordination of R&D activities difficult and resulting in the thin spread of resources for this function. This has reduced the impact of these resources. There is need, therefore, for government to review the mandate of MSTVT to enable it provide training beyond semi-professional level and be responsible for all R&D activities in science and technology.

### **3.0 MISSION STATEMENT**

- 3.1 It is against this background, therefore, that the mission statement for MSTVT has been revised as follows:

**“To effectively facilitate and promote the development and application of science and technology; and provision of technical, vocational and entrepreneurship skills for sustainable national economic growth and improved quality of life”**

- 3.2 Through this revised mission statement, MSTVT will provide and monitor, coordinate and evaluate the implementation of an appropriate operational framework to ensure the development and application of science and technology and the provision of quality and relevant technical education, vocational and entrepreneurship training necessary for sustainable national economic growth and improved quality of life.
- 3.3 The political and administrative leadership in the Ministry will be responsible for ensuring the successful achievement of this statement. Consequently, they will be expected to provide effective and visionary leadership and mobilise sufficient resources to enable full implementation of the revised Plan by specialised departments in the Ministry and other stakeholders. They will also ensure that accurate information on performance against the Plan is kept and regularly disseminated to relevant stakeholders.

### **4.0 GOAL STATEMENT**

- 4.1 In support of the revised mission statement, and to give MSTVT specific focus and direction in the next five years, the goal statement has been revised as follows:

**“To strengthen capacities for the national development and application of science and technology, and for the provision of skilled human resources for improved productivity and quality of life”**

- 4.2 Through this revised goal statement, MSTVT will develop and implement programmes that will enable strengthening of capacities for the

development and application of science and technology and the provision of skilled human resources in the country in consultation with stakeholders.

## **5.0 OBJECTIVES, STRATEGIES AND OUTPUT INDICATORS**

5.1 To realise the goal for MSTVT, the following objectives with their corresponding strategies and output indicators have been developed:

**5.2 Objective 1: To develop diversified curricula in order to provide skilled human resources for increased productivity in the formal and informal sectors.**

### **5.2.1 Strategies**

- i) Review existing curricula in consultation with stakeholders;
- ii) Revise and re-enforce standards, and
- iii) Facilitate the development and implementation of national curricula.

### **5.2.2 Output Indicators**

- i) Revised National Curricula in use by 2003;
  - ii) Improved Training Standards enforcement mechanisms in place by December 2003; and
  - iii) Diversified National curricula developed and in use by 2004.
- 5.2.3 Through this objective and associated strategies, MSTVT will take a proactive approach and consult widely with relevant stakeholders for the purpose of developing curricula that reflect the needs of the labour market. In addition, MSTVT will undertake regular reviews of the curricula and standards and effectively enforce them to ensure that the training provided by the Ministry meets the changing demands of the labour market.

**5.3 Objective 2: To rehabilitate and improve existing facilities in institutions in order to enhance Research and Development and the provision of quality training.**

### **5.3.1 Strategies**

- i) Develop and implement preventive maintenance plan;
- ii) Facilitate rehabilitation of facilities;
- iii) Provide tools and equipment;
- iv) Monitor the utilisation of tools and equipment, and
- v) Evaluate the impact of preventive maintenance plan and the tools and equipment.

### **5.3.2 Output Indicators**

- i) Preventive maintenance programme developed and implemented by December 2003.
- ii) All institutions rehabilitated by December 2007, and
- iii) Essential tools/equipment procured and distributed by 2007.

**5.3.3** Through this objective and associated strategies, MSTVT will develop a comprehensive and prioritised rehabilitation programme that will cover all the public institutions in the Ministry and mobilise resources necessary for its successful implementation. It will also put in place a flexible and comprehensive preventive maintenance scheme that will ensure that facilities in training and R&D institutions are kept in good condition.

**5.4 Objective 3: To effectively manage and develop human resources for the efficient and effective performance of the ministry.**

#### **5.4.1 Strategies**

- i) Employ qualified staff;
- ii) Enforce occupational standards for TEVET and Science and Technology;
- iii) Provide amenities for staff and students;
- iv) Implement performance management systems; and
- vii) Develop and implement training plans.

#### **5.4.2 Output Indicators**

- i) All key positions filled by 2003;
- ii) Standard lecturer/student and researcher/technician ratio achieved by 2007;
- iii) Recreation facilities and health standard safety programmes developed and implemented by 2003;
- iv) Performance Management Package (PMP) institutionalised by 2003;
- vi) Training plan prepared and implemented by 2003;
- vii) Number of staff trained in relevant fields annually.

**5.4.3** Through this objective and associated strategies, MSTVT will develop and implement programmes and activities that promote efficient utilisation and development of human resources in the Ministry necessary for effective and efficient implementation of the revised Strategic Plan.

**5.5 Objective 4: To develop a National Qualification Framework in order to ensure coherence in qualification.**

### **5.5.1 Strategies**

- i) Establish National Qualification Framework in consultation with key stakeholders.

### **5.5.2 Output Indicators**

- i) National Qualification Framework developed and operational by 2007.
- 5.5.3 Through this objective and associated strategies, MSTVT will ensure that a relevant national qualification framework is developed and regularly reviewed in order to facilitate accreditation of prior learning of trainees, establishment of equivalent qualifications and standardisation of training.

## **5.6 Objective 5: To construct infrastructure for institutions that are operating in temporally premises and training and science and technology institutions in order to provide quality services.**

### **5.6.1 Strategies**

- i) Facilitate construction of infrastructure.

### **5.6.2 Output Indicators**

- i) Six (6) new institutions constructed by 2007.
- 5.6.3 Through this objective and associated objectives, MSTVT will develop an infrastructure construction programme and mobilise necessary resources for its implementation to ensure that at least six (6) institutions operating in temporally premises are provided adequate and modern accommodation.

## **5.7 Objective 6: To promote the application of Science and Technology to enhance protection of the environment, improve quality of goods and services and enhance national productivity and competitiveness.**

### **5.7.1 Strategies**

- i) Provide incentives for cleaner production processes;
- ii) Provide information on technologies for recycling of materials;
- iii) Advocate for tax and other incentives for industries using bio-degradable materials;
- iv) Facilitate establishment of venture capital fund;
- v) Advocate for enforcement of products standards by Zambia Bureau of Standards; and

vi) Facilitate adoption of locally and foreign packaged technologies for use by entrepreneurs.

#### **5.7.2 Output Indicators**

- i) Increased adoption of cleaner production processes;
- ii) Increased recycling of materials;
- iii) Reduced pollution and environmental degradation;
- iv) Increased use of bio-degradable materials in the processing industry;
- v) Increased volume of sales for locally produced goods;
- vi) Increased exports; and
- vii) Increased adoption of technologies.

5.7.3 Through this objective and associated strategies, MSTVT will take a proactive role in the promotion of the application of science and technology in the country by developing and implementing a prioritised science and technology application promotion programme in consultation with relevant stakeholders.

#### **5.8 Objective 7: To strengthen the enforcement of standards in the provision of skills training and development and application of science and technology to ensure quality control.**

##### **5.8.1 Strategies**

- i) Enforce TEVET Act effectively;
- ii) Review Science and Technology Act No. 26 of 1997;
- iii) Review the organisation structure of NSTC;
- iv) Strengthen the TEVETA inspectorate;
- v) Review inspection regulations;
- vi) Publish standards annually;
- vii) Conduct follow up studies annually;
- viii) Conduct tracer studies every three years;
- ix) Facilitate capacity building of the National and Satellite Metrology laboratories; and
- x) Develop and implement an accreditation programme and system for laboratory facilities; and

##### **5.8.2 Output Indicators**

- i) Science and Technology Act No. 26 of 1997 reviewed by December 2003.
- ii) The organisation structure of NSTC reviewed by December 2003;
- iii) Inspection schedules prepared and implemented annually;
- iv) Inspection regulations reviewed annually;
- v) Standards published annually;
- vi) Follow up and tracer studies conducted by December 2007;
- vii) Strengthened national and satellite metrology laboratories in

- viii) Place by December 2007;
  - ix) Accredited laboratory facilities available by December 2007; and
  - Accreditation system for laboratories and other facilities in place by December 2005.
- 5.8.3 Through this objective and associated strategies, MSTVT will draw on regional and international practice and experience, and consult its stakeholders in order to develop and effectively enforce modern and acceptable standards in the provision of skills training and the development and application of science and technology in the country to meet national requirements.
- 5.9 Objective 8: To establish and maintain a systematic consultative mechanism within the TEVET and Science and Technology Sectors in order to promote coordination and enhance exchange of information.**
- 5.9.1 Strategies**
- i) Set up consultative Committees;
  - ii) Establish consultative forum; and
  - iii) Establish mechanism for exchange of information.
- 5.9.2 Output Indicators**
- i) Industry/Institutional consultative committees established and operational by December 2003;
  - vi) Consultative forum for the Ministry and Management Boards established and operational by 2003;  
and
  - iii) Regular flow and exchange of information.
- 5.9.3 Through this objective and associated strategies, MSTVT will establish effective consultative mechanisms that will promote synergy in resource mobilisation and utilisation as well as in programme implementation among the various players in the TEVET and science and technology sectors for effective and efficient performance.
- 5.10 Objective 9: To establish and maintain an integrated Information Management System (IMS) for effective decision making and dissemination of up-to-date information.**

### **5.10.1 Strategies**

- i) Develop and maintain a comprehensive data base and retrieval systems; and
- ii) Set up institutional framework for publication of activities and sector's performance.

### **5.10.2 Output Indicators**

- (i) Comprehensive and integrated database in place and operational by December, 2005;
- (ii) Improved access and retrieval of information; and
- (iii) Timely publications of Science and Technology and TEVET activities.

5.10.3 Through this objective and associated strategies, MSTVT will take deliberate steps to generate, maintain and provide accurate, relevant and current information on science and technology , technical education and vocational and entrepreneurship training and on its operations in general to its clients and stakeholders using modern information technologies.

## **5.11 Objective 10: To develop a focused national agenda for science and technology in order to promote science and technology as a catalyst for national development.**

### **5.11.1 Strategies**

- i) Set up a committee to spearhead advocacy for a national agenda on Science and Technology and review MSTVT Portfolio;
- ii) Establish venture capital fund; and
- iii) Advocate for incentives for industries applying locally developed science and/or adapted technologies.

### **5.11.2 Output Indicators**

- i) National agenda on Science and Technology in place by December 2003;
- ii) Cabinet Memorandum prepared by June 2003;
- (iii) Portfolio of the MSTVT reviewed by December 2003;
- (iv) A Cabinet Committee on Science and Technology in place by October 2003;
- (v) Venture capital established by December 2004; and
- (vi) Increased application of science and technology by December 2004.

5.11.3 Through this objective and associated strategies, MSTVT will ensure that all legal, policy and administrative issues that deter the effective development and utilisation of science and technology as a catalyst for national development are resolved and science and technology takes a centre stage in the country's socio-economic development.

**5.12 Objective 11:** **To encourage increased participation of women and other disadvantaged groups in technical education, and vocational and entrepreneurship training and in science and technology in order to promote equity.**

#### **5.12.1 Strategies**

- i) Support initiatives aimed at encouraging the participation of women in science and technology and training;
- ii) Establish a bursary Scheme for females and disadvantaged groups.
- iii) Sensitise women and other disadvantaged groups to participate in science and technology and technical training;
- iv) Undertake science and technology career promotion and advocacy campaigns;
- v) Facilitate trained women entrepreneurs' access to credit; and
- vii) Facilitate vocational skills training for persons with special needs.

#### **5.12.2 Output Indicators**

- i) More women and disadvantaged groups participating in science and technology activities;
- ii) Increased number of women and disadvantaged groups scientists and technologists;
- iii) Increase in the number of trained women and disadvantaged groups entrepreneurs; and
- iv) Increased number of persons with special needs accessing training.

5.12.3 Through this objective and associated strategies, MSTVT will develop a comprehensive programme to promote the participation of women and other disadvantaged groups in Technical Education, Vocational and Entrepreneurship Training and in science and technology and mobilise resources necessary for its successful implementation and sustainable quality of training.

**5.13 Objective 12:** **To review and monitor the implementation of policies on science and technology, technical education, and vocational and entrepreneurship training in order to ensure attainment of policy objectives.**

### **5.13.1 Strategies**

- i) Review Science and Technology Act and Policy;
- ii) Review TEVET Policy and Act;
- iii) Enhance liaison with sector ministries on policies on science and technology and vocational training;
- iv) Provide a mechanism for the operationalisation of ICT Policy; and
- v) Bio-technology and bio-safety Policy developed and operationalised by December 2004;.
- vi) Develop and implement a policy monitoring mechanism and evaluate impact.

### **5.13.2 Output Indicators**

- i) Science and Technology Policy and Act reviewed by June 2003;
- ii) TEVET Policy and Act reviewed by June 2003;
- iii) Sector policies harmonised by December 2005;
- iv) ICT Policy developed and operationalised by 2004; and
- v) Biotechnology and bio safety policy operationalised by 2004.

5.13.3 Through this objective and associated strategies, MSTVT will ensure that the legal and policy framework for its mandate is reviewed and strengthened in line with relevant changes in the environment. It will also ensure that effective mechanisms for implementing the revised legal and policy framework are developed and implemented.

## **5.14 Objective 13: To provide efficient and effective administrative and support services in order to facilitate the smooth operations of the ministry.**

### **5.14.1 Strategies**

- i) Develop and implement an efficient administrative mechanism; and
- ii) Expedite the restructuring of the Ministry.

### **5.14.2 Output Indicators**

- i) Timely and adequate provision of internal funds, materials, supplies, transport and other logistics; and
- ii) New structure operational by January 2003.

5.14.3 Through this objective and associated strategies, MSTVT will ensure that resources necessary to effectively implement the revised Strategic Plan are mobilised and utilised in a prioritised and transparent manner.

## **6.0 PRE-CONDITIONS**

- 6.1 For the revised Strategic Plan to be implemented successfully, certain conditions must be in place. These include:-
- Continued political goodwill and support;
  - Availability of timely and adequate funding, including capital funding;
  - Availability of adequate and qualified human resources;
  - Availability of adequate transport;
  - Co-operation from stakeholders and clients;
  - Improved salaries and conditions of service;
  - Acceptance and ownership of the Strategic Plan by key stakeholders;
  - Stability at political and managerial levels;
  - Continued peace and stability in the country and region;
  - Staff awareness of and commitment to the Strategic Plan;
  - Linking of the Strategic Plan to the budgeting process;
  - Staff commitment to documenting accurate and comprehensive performance information.
  - Availability of technical and financial assistance from cooperating partners.
  - Willingness of women and other disadvantaged groups to participate in science, technology, technical education, and vocational and entrepreneurship programmes.

## **7.0 GENERAL ASSUMPTIONS**

- 7.1 The revised Strategic Plan has provided the mission, goal, objectives and strategies as well as the output indicators for MSTVT for the period 2003-2007. It has also provided an analysis of the complex and dynamic environment in which the Ministry is operating and its associated challenges. Furthermore, the revised Plan has outlined Government's overall macro-economic policy framework, national priorities and the internal factors that may affect its operations during the period.
- 7.2 The successful implementation of this Strategic Plan is, therefore, based on the following general assumptions:-
- a) MSTVT will own the revised Strategic Plan and actively pursue its implementation;
  - b) MSTVT will exhibit total organisational commitment which is critical to the successful implementation of the Strategic Plan;
  - c) MSTVT will endeavour to apply the limited resources to key priority areas in order to achieve effective and efficient implementation of the Strategic Plan. This will be necessary given the fact that finances are likely to continue to be a constraining factor in the Public Sector;

- d) Development of a new positive organisational work culture, such as work planning, target setting and performance recording and monitoring is a must to support the implementation of the Strategic Plan;
- e) MSTVT will be operating on the basis of the new structure. This is important because it will provide the necessary chain of command and the human resources needed to effectively implement the revised Strategic Plan; and
- f) Continued support and co-operation from clients and stakeholders.

## **8.0 LINKING THE STRATEGIC PLAN TO THE BUDGETING PROCESS**

- 8.1 Various resources will be required in order for MSTVT to effectively implement the Strategic Plan. These resources can only be obtained through prudent budgeting. It is imperative, therefore, that the MSTVT links its Strategic Plan to the Government budgeting process by developing annual work plans on the basis of the Strategic Plan and linking these to Government annual budgeting system under the Ministry of Finance and National Planning. This will work to enhance the Activity-Based Budgeting (ABB) that has been adopted by the Government.
- 8.2 The implementation of the Strategic Plan will need to be constantly monitored and performance reports on the various aspects of the Plan periodically prepared and discussed to inform the next course of action. These performance reports will provide evidence for value-for-money and serve as inputs into decisions and processes, including the next round of strategic planning in the year 2008.

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**THE SCIENCE AND TECHNOLOGY ACT, 1997**

## ARRANGEMENT OF SECTIONS

PART I PRELIMINARY *Section*

1. Short title and commencement
2. Interpretation

## PART II THE NATIONAL

## SCIENCE AND TECHNOLOGY COUNCIL

3. Establishment of Council
4. Functions of Council
5. Composition of Council
6. Executive Secretary, Deputy Secretary, Secretary and other staff

## PART III

## SCIENCE AND TECHNOLOGY INSTITUTES AND RESEARCH AND DEVELOPMENT SUPPORT CENTRES

7. Establishment of institutes and centres
8. Restriction on- execution against property of institute or centre

## PART IV

## REGISTRATION OF CENTRES AND INSTITUTES

9. Registration of centres and institutes

## PART V

## CONSTITUTION OF MANAGEMENT BOARDS FOR INSTITUTES AND \* CENTRES

10. Constitution of management boards
11. Functions of management boards
12. Director, Deputy Director, Secretary and other staff
13. Transfer of staff

*f*

- 
- 14. Rights of management boards in discoveries
  - 15. Tax exemption

**PART VI MISCELLANEOUS 16 Venture**

**Capital Fund**

- 17. Transitional provisions
- 18. Vesting of assets and transfer of liabilities
- 19. Registration of property to be transferred
- 20. Legal Proceedings
- 21. Appeals
- 22. Regulations
- 23. Repeal of Cap. 140

**FIRST SCHEDULE**

**PART I**

**ADMINISTRATION**

- 1. Seal of Council
- 2. Tenure of office of member
- 3. Filling of casual vacancy
- \*
- 4. Proceedings of Council
- 5. Committees of Council
- 6. Remuneration and allowances of members
- 7. Disclosure of interest                           'K'
- 8. Prohibition of publication of or disclosure of information to unauthorised persons

**PART II**

**FINANCIAL PROVISIONS**

- 9. Funds of Council
- 10. Financial year
- 11. Accounts
- 12. Annual report

SECOND SCHEDULE  
PART I ADMINISTRATION  
FOR MANAGEMENT BOARDS

1. Seal of management board
2. Tenure of office of member
3. Filling of casual vacancy
4. Proceedings of management board
5. Committees of management board
6. Remuneration and allowances of members
7. Disclosure of interest
8. Prohibition of publication of or disclosure of information to unauthorised persons

PART II FINANCIAL

PROVISIONS FOR MANAGEMENT BOARDS

9. Funds of management board
10. Financial year
11. Accounts
12. Annual report

GOVERNMENT OF ZAMBIA

**ACT****No. 26 of 1997**

Date of Assent: 11 th November, 1997

**An act to establish the National Science and Technology Council; to define its functions and provide for its composition; to provide for the establishment of centres and institutes and to define their functions; to constitute management boards for the centres and institutes established under the Act and to provide for their composition; to provide for the establishment of existing research institutions as centres and institutes under this Act; and to provide for matters connected with or incidental to the foregoing.**

[ 14th November, 1997]

ENACTED by the Parliament of Zambia.

Enactment

**PART I****PRELIMINARY**

- |   |                                    |
|---|------------------------------------|
| 1. This Act may be cited as the Science and Technology Act, 1997, and shall come into operation on such date as the Minister may, by statutory instrument, appoint. | Short title<br>and<br>commencement |
| 2. In this Act, unless the context otherwise require—<br>" appointed date " means the date appointed by the Minister under section <i>one</i> ; *                   | Interpretation                     |
| " centre " means a research and development support centre established under section <i>seven</i> or registered under section <i>nine</i> ;                         |                                    |
| " chairperson " means a person appointed as Chairperson for the Council under section <i>five</i> ;   |                                    |

Cap. 236

- " Council " means the National Science and Technology Council established under section *three*;
- " Deputy Director " means a person appointed as Deputy Director under section *twelve*;
- " Deputy Executive Secretary " means a person appointed as Deputy Executive Secretary under section six;
- " Director " means a person appointed as Director under section *twelve*;
- " Executive Secretary " means a person appointed as Executive Secretary under section *six*;
- " former Council" means the National Council for Scientific Research established under the National Council for Scientific Research Act;
- Government research institution " means a branch or department of the Government whose main function to carry out science and technology research;
- " institute " means a science and technology institute established by the Government under section *seven* or registered as a private institute under section *nine*;
- management board " means a management board constituted under section *ten*;
- " Secretary " means a person appointed as Secretary of the Council under section *six*; and
- " Vice-Chairperson " means a person elected as Vice-Chairperson of the Council under section *five*.

## PART IT

### THE NATIONAL SCIENCE AND TECHNOLOGY COUNCIL

Establishment  
of Council

3. (1) There is hereby established the National Science and Technology Council which shall be a body corporate with perpetual succession and a common seal, capable of suing and of being sued in its corporate name, and with power, subject to this Act, to do all such acts and things as a body corporate may by law do or perform.

(2) The provisions of the First Schedule I shall apply to the Council.

Functions of  
Council

4. (1) The functions of the Council shall be to promote science and technology so as to improve the quality of life in Zambia.

*Science and Technology* [No. 26 of 1997]159

- (2) Without prejudice to the generality of subsection (1), the functions of the Council shall be to—
- (a) promote the development of an indigenous and environmentally friendly technological capacity;
  - (b) regulate research in science and technology in Zambia;
  - (c) register institutes and centres;
  - (d) advise the Government on science and technology policies and activities in Zambia;
  - (e) determine broad directions, stimulate co-ordination and initiate special projects in science and technology;
  - (f) promote and publicise board national priorities in science and technology research;
  - (g) liaise with Government, industry and centres and institutes in science and technology;
  - (h) mobilise and distribute financial, **human** and other resources to management boards for science and technology research;
  - (i) recommend to the Government the establishment of any new research institutes and centres;
  - (j) promote the use of science and technology in industry;
  - (k) ensure that gender concerns are integrated at all levels of science and technology development;
  - (l) collect and disseminate science and technology information including publication of scientific reports, journals and other such documents and literature;
  - (m) establish and maintain a relationship with corresponding scientific organizations in other countries; V
  - (n) take all measures that are necessary to popularise science and technology;
  - (o) identify and determine national research and development priorities in science and technology; and
  - (p) do all such things connected with or incidental to the functions of the Council under this Act.
- (3) The Council may, by directions in writing and subject to such conditions as it thinks fit, delegate to any member, committee or the Executive Secretary any of its functions under this Act.

160 No. 26 of 1997] Science and Technology

**Composition of Council** 5. (1) The Council shall consist of thirteen members appointed by the Minister as follows:

- (a) two members from any research institute or centre established under this Act;
- (b) two members from any public or private university;
- (c) a member from a technical college;
- (d) an engineer from industry;
- (e) a member with rich business and commercial experience in the private sector; and
- (f) a member each from the ministries responsible for science and technology, environment and natural resources, health, commerce and trade, agriculture and mines.

(2) The Chairperson and Vice Chairperson of the Council shall be elected by the members from amongst themselves.

**Executive Secretary, Deputy Executive Secretary and other staff**

6. (1) Subject to subsection (3), the Council shall, on such terms and conditions as it may determine, appoint an Executive Secretary who shall be the Chief Executive Officer of the Council and who shall, subject to the control of the Council, be responsible for the day to day administration of the affairs of the Council.

(2) The Council may appoint a Deputy Executive Secretary who shall—

- (a) assist the Executive Secretary in the performance of his duties under this Act; and
- (b) discharge the functions of the Executive Secretary whenever the office of the Executive Secretary is vacant or the Executive Secretary is absent or is for any other reason unable to discharge the functions of his office.

(3) The Executive Secretary shall be appointed for a term of three years and shall be eligible for re-appointment for a further term of three years.

(4) The Executive Secretary shall attend meetings of the Council and may address such meetings, but shall have not vote.

(5) The Executive Secretary shall be the Secretary of the Council.

(6) The Council may appoint on such terms and conditions as it may determine, such other staff as it considers necessary for the performance of its functions under this Act.

### PART III

#### SCIENCE AND TECHNOLOGY INSTITUTES AND RESEARCH AND DEVELOPMENT SUPPORT CENTRES

7. (1) The Minister may, on the recommendation of the Council, by statutory instrument, establish any science and technology institute or a research and development support centre and set out the functions of each institute or centre.

(2) An institute or centre established under subsection (1) shall be a body corporate with perpetual succession and a common seal, capable of suing and of being sued in its corporate name, and with power, subject to this Act, to do all such acts and things as a body corporate may by law do or perform.

(3) On or after the appointed date the Minister shall, by statutory instrument, establish the former Council, as an institute under this Act.

(4) On or after the appointed date, the Minister may, by statutory instrument, establish an existing Government research institution as an institute or centre under this Act.

(5) The Second Schedule shall apply to an institute or centre established under this Act.

8. Notwithstanding anything contrary contained in any written law, where any judgement or order has been obtained against any institute or centre established by the Minister under section *seven*, no execution or attachment or process of any nature thereof, shall be issued against the institute or centre or against any property of the institute or centre, but the Director shall cause to be paid out of the revenue of the institute or centre such amounts as may, by the judgement or order, be awarded against the institute or centre to the person entitled thereto.

Restriction  
on execution  
against  
property of  
institute or  
centre

### PART IV

#### REGISTRATION OF CENTRES AND INSTITUTES

9. (1) Every centre or institute shall apply to the Council for registration as a centre or institute in the prescribed form. L

Registration  
of centres  
and institutes

(2) An application referred to in subsection (1) shall state: \_

- (a) the name of the private centre or institute;
- (b) the principal place of business;
- (c) the names and qualifications of its research and development staff;

162 No. 26 of 1997] Science and Technology.

(d) the areas of research and development in which the private centre or the institute is involved; and;

(e) any other details the Minister may, on the recommendation of the Council, by statutory instrument prescribe.

(3) The Council shall, subject to subsection (5), register every centre or institute on the payment of the prescribed fee.

(4) Where the Council is not satisfied with the application to register an institute or centre in accordance with subsection (1), it shall refuse to register a centre or institute and shall state the reasons for the refusal.

(5) The Council shall keep a register of centres and institutes registered under subsection (3).

(6) The Council shall every year, publish in the *Gazette*, the list of all institutes and centres registered under this Act.

#### PART V

##### CONSTITUTION OF MANAGEMENT BOARDS FOR CENTRES AND INSTITUTES

Constitution of management boards 10. (1) The Minister shall, by statutory instrument, constitutes management board for a centre or institute established under this Act.

(2) In constituting a management board for an institute or centre under subsection (1), the Minister shall appoint not more than seven members of the Board and set out the functions of each management board.

Functions of management board 11. (1) Notwithstanding the provisions of a statutory instrument specifying the functions of each management board pursuant to subsection (2) of section *ten*, a management board for an institute or a centre established under this Act shall—

(a) administer the affairs of any centre or institute established under this Act; and

(b) do all such things as are necessary to promote science and technology.

V

(2) A management board may, by directions in writing and subject to such conditions as it thinks fit, delegate to any member, committee or the Director any of its functions under this Act.

(3) The Council may give to a management board, such general or specific directions with respect to the discharge of its functions as it may consider necessary and the management board shall give effect to such directions.

(4) A management board may collaborate, or enter into agreement, with any organisation or institution on any matter relevant to the carrying out of the functions of the management board under this Act.

(5) The Chairperson and Vice Chairperson of each management board shall be elected by the members from amongst themselves.

12. (1) Subject to subsection (2), a management board shall appoint a Director on such terms and conditions as it may determine, who shall be the Chief Executive Officer of a management board and who shall, subject to the control of the management board, be responsible for the day to day administration of the institute or centre.

Director,  
Deputy  
Director,  
Secretary  
and other  
staff

(2) The Director shall be appointed for a term of three years and shall be eligible for re-appointment for a further term of three years.

(3) The Director shall attend meetings of a management board and may address such meetings, but shall have no vote.

(4) The Director shall be the Secretary to a management board.

(5) A management board may appoint a Deputy Director who shall—

- (a) assist the Director in the performance of his duties under this Act; and
- (b) discharge the functions of the Director whenever the Office of the Director is vacant or the Director is absent or is for any other reason unable to discharge the functions of his office.

(6) A management board may, on such terms and conditions as it may determine, appoint such other staff as it considers necessary for the performance of its functions under this Act.

13. (1) The Minister may, by statutory instrument, approve arrangements under which all or some of the public officers shall be transferred to the Council or a management board from the public service or from the former council.

(2) Where a person is transferred, in accordance with the arrangements made under subsection (1), his terms and conditions with the Council or a management board shall be no less favourable than those enjoyed while in the public service or the former Council, and for the purposes of determining his rights to, or eligibility for, any pension, gratuity, leave or other benefits, his previous service with the public service or the former Council shall be treated as continued service.

164 No. 26 of 1997] Science and Technology

Rights of management boards in discoveries	<p>14. Where any person employed by a management board while carrying out research or other duties makes a discovery, invention or improvement in the course of his duties, the management board shall be deemed to be the owner for all purposes of the rights therein:</p> <p>Provided that the management board shall pay to that person such bonus, fees or royalties thereof, or make such arrangements for such person to share in the profits derived therefrom, as the management board may determine.</p>
Tax exemption	<p>15. (1) Notwithstanding any other law to the contrary, centres and institutes shall be exempt from duties and taxes on all capital goods and consumables as agreed by the Minister of Finance.</p> <p>(2) In this section "consumables" means laboratory consumables.</p>
Venture capital fund	<p><b>PART VI</b></p> <p><b>MISCELLANEOUS</b></p> <p>16. (1) The Minister shall constitute the Venture Capital Fund to promote new technology in small businesses.</p> <p>(2) The Minister may, by statutory instrument, provide for the management of the Venture Capital Fund.</p>
Transitional provisions	<p>17. (1) Subject to the provisions of this Act, a person who immediately before the appointed date held office as a member of the former Council shall on the appointed date, hold office as a member of the Council for a period of three months.</p> <p>(2) After the period referred to in subsection (1) the members shall be appointed in accordance with this Act.</p>
Vesting of assets and transfer of liabilities	<p>18. (1) The Minister may, by statutory instrument, regulate the transfer of all property which immediately before the appointed date, was the property of the former Council.</p> <p>(2) The rights, liabilities and obligations relating to the property owned by the former Council shall vest in any institution established under this Act to which the property referred to in subsection (1) shall be transferred.</p>
Registration of property to be transferred	<p>19. (1) Whenever under this Act any property, rights, liabilities or obligations of the former Council are transferred to an institute established under this Act in respect of which transfer a written law provides for registration, that institution shall make an application in writing to the proper officer or the appropriate registration authority for the registration of the transfer.</p>

(2) The proper officer or the registration authority referred to in subsection (1) shall make such entries in the appropriate register as shall give effect to the transfer and, where appropriate, issue the transferee concerned with a certificate of title in respect of the property or make necessary amendments to the register, as the case may be, and shall make endorsements on the deeds relating to the title, right or obligation concerned.

(3) Registration fees or duty shall not be paid in respect of any transfer effected under this Part.

20. Any legal proceedings or application pending before any authority before the commencement of this Act by or against the former Council may be continued by or against the Council.

Legal  
proceedings

21. (1) Where any person is aggrieved by any decision made under this Act by the Council, that person may within thirty days of the decision appeal to the Minister.

Appeals

(2) The Minister may vary, confirm, amend or rescind any decision appealed against and shall give reasons for his decision.

22. (1) The Minister may, on the recommendation of the Council, make regulations by statutory instrument for the better carrying out of the provisions of this Act.

Regulations

(2) Without prejudice to the generality of subsection (1) the Minister may, on the recommendation of the Council, make rules or regulations—

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- (a) the conduct of research in science and technology;
- (b) the registration of institutes and centres; and
- (c) any matter which the Board is authorised by this Act to formulate or regulate.

V

(3) Rules or regulations made under this Act may provide in respect of any contravention thereof that the offender shall be liable to a fine not exceeding twenty thousand penalty units or to a term of imprisonment not exceeding five years or to both.

Repeal of  
Cap. 140

23. The National Council for Scientific Research Act shall stand repealed on the appointed date.

**166 No, 26 of 1997]***Science and Technology***FIRST SCHEDULE***(Section 3)***PART I****ADMINISTRATION**Seal of  
Council

1. (1) The seal of the Council shall be such device as may be determined by the Council and shall be kept by the Secretary.

(2) The affixing of the seal shall be authenticated by the Chairperson or the Vice-Chairperson and the Secretary or one other person authorised in that behalf by a resolution of the Council.

(3) Any contract or instrument which, if entered into or executed by a person not being a body corporate, would not be required to be under seal, may be entered into or executed without seal on behalf of the Council by the Secretary or any other person generally or specifically authorised by the Council in that behalf.

(4) Any document purporting to be a document under the seal of the Council or issued on behalf of the Council shall be received in evidence without further proof, unless the contrary is proved.

Tenure of  
office of  
member

2. (1) Subject to the other provisions of this Act, a member shall hold office for a period of three years from the date of appointment and may be re-appointed for a further term of three years:

Provided that the first members shall be appointed for periods ranging from two to three years in order to facilitate retirement by rotation.

(2) A member may resign by giving one month's notice in writing to the Secretary and the appointing authority.

Filling of  
casual  
vacancy

(3) The office of a member shall become vacant—

(a) upon his death;

(b) if he is absent without reasonable excuse from three consecutive meetings of the Council of which he has had notice;

(c) on ceasing to hold the office by virtue of which he was appointed member under section five'; or

(d) if he is declared bankrupt.

Proceedings  
of Council

3. Whenever the office of a member becomes vacant before the expiry of the term of office, the Minister may appoint another member in place of the member who vacates the office.

4. (1) Subject to the other provisions of this Act, the Council may regulate its own procedure.

*Science and Technology* [No. 26 of 1997] 167

(2) The Council shall meet for the transaction of business, at least once in every three months at such places and at such times as the Chairperson may decide.

(3) Upon giving notice of not less than fourteen days, a meeting of the Council may be called by the Chairperson and shall be called if not less than one third of the members so request in writing:

Provided that if the urgency of any particular matter does not permit the giving of such notice, a special meeting may be called upon giving a shorter notice.

(4) The quorum at any meeting of the Council shall be seven members.

(5) There shall preside at any meeting of the Council—

(a) the Chairperson or the Vice-Chairperson; or

(b) in the absence of the Chairperson and Vice-Chairperson, such member as the members present may elect from amongst themselves for the purpose of that meeting.

(6) A decision of the Council on any question shall be by a majority of the members present and voting at the meeting and, in the event of an equality of votes, the person presiding at the meeting shall have a casting vote in addition to his deliberative vote.

(7) Where a member referred to in paragraphs (a), (b), (c) and (f) section/iv<? is for any reasonable cause unable to attend any meeting of the Council, he may, in writing, nominate another person from the same organisation to attend such meeting in his stead and such person shall be deemed to be a member for the purpose of such meeting.

(8) The Council may invite any person whose presence in its opinion is desirable, to attend and to participate in the deliberations of a meeting of the Council but such person shall have no vote.

(9) The validity of any proceedings, act or decision of the Council shall not be affected by any vacancy in the membership of the Council or by any defect in the appointment of any member or by reason that any person not entitled so to do, took part in the proceedings.

(10) The Council shall cause minutes to be kept of the proceedings of every meeting of the Council and every meeting of any committee established by the Council.

5. (1) The Council may, for the purpose of performing its functions under this Act, establish committees and delegate to any such committee such of its functions as it thinks fit. Committee  
the of Council

(2) The Council may appoint as members of a committee established under subsections (1), persons who are or are not members of the Council and such persons shall hold office for such period as the Council may determine.

(3) Subject to any specific or general direction of the Council any committee established under subsection (1), may regulate its own procedure.

Remuneration  
and  
allowances of  
members

6. The members shall be paid such remuneration and allowances as the Council may determine, with the approval of the Minister.

Disclosure of  
interest

7. (1) If a member is present at a meeting of the Council or any committee of the Council at which any matter is the subject of consideration and in which matter the member or member's spouse is directly or indirectly interested in a private capacity, the member shall, as soon as is practicable after the commencement of the meeting, disclose such interest and shall not unless the Council otherwise directs, take part in any consideration or discussion of, or vote on, any question touching such matter.

(2) A disclosure of interest made under this section shall be recorded in the minutes of the meeting at which it is made.

Prohibition of  
publication  
or disclosure  
of  
information  
to an  
Unauthorised  
person

8. (1) A person shall not, without the consent in writing given by or on behalf of the Council, publish or disclose to any unauthorised person, otherwise than in the course of his duties, the contents of any documents, communication or information whatsoever, which relates to, and which has come to his knowledge in the course of his duties under this Act.

(2) Any person who contravenes the provisions of subparagraph (1) shall be guilty of an offence and shall be liable, upon conviction, to a fine not exceeding five thousand penalty units or to imprisonment for a term not exceeding three years, or to both.

(3) If any person having any information which to his knowledge has been published or disclosed in contravention of subparagraph (1) unlawfully publishes or communicates any such information to any other person, he shall be guilty of an offence and shall be liable, upon conviction, to a fine not exceeding five thousand penalty units or to imprisonment for a term not exceeding three months or to both.

## PART II

## FINANCIAL PROVISIONS

9. (I) The funds of the Council shall consist of such moneys as Funds of the  
may—  
Council

- (a) be appropriated by Parliament for the purposes of the Council;
- (b) be paid to the Council by way of fees, levy, grants or donations; or
- (c) vest in or accrue to the Council.

(2) The Council may—

- (a) accept moneys by way of grants or donations from any source in Zambia and, subject to the approval of the Minister, from any source outside Zambia;
- (b) raise moneys by way of loans or otherwise, from any source in Zambia and subject to the approval of the Minister, from any source outside Zambia, such moneys as it may require for the discharge of its functions, and
- (c) in accordance with the regulations made under this Act, charge and collect fees for services provided by the Council.

(3) There shall be paid from the funds of the Council—

- (a) the salaries, allowances and loans of the staff of the Council;
- (b) such reasonable travelling, transport and subsistence allowances for members of any committee of the Council when engaged in the business of the Council, at such rates as the Minister may determine; and
- (c) any other expenses incurred by the Council in the performance of its functions.

(4) The Council may invest in such manner as it thinks fit such of its funds as it does not immediately require for the performance ♦ of its functions.

(5) The Council shall constitute a Science and Technology Development Fund to—

- (a) encourage special initiatives in science or technology research development; and
- (b) Commercialise technology.

170 No. 26 of 1997] Science and Technology

(6) The Minister, may by statutory instrument, provide for the management of the Science and Technology Development Fund.

10. The financial year of the Council shall be the period of twelve months ending on the 31st of December, in each year.

Accounts 11. The Council shall cause to be kept proper books of account and the other records relating to its accounts.

Annual report 12. (✓) As soon as practicable, but not later than six months after

the expiry of each financial year, the Council shall submit to the Minister a report concerning its activities during such financial year.

(2) The report referred to in paragraph (1) shall include information on the financial affairs of the Council and the management boards for centres and institutes established under this Act and there shall be appended thereto—

- (a) an audited balance sheet;
  - (b) an audited statement of income and expenditure;
  - (c) an audited statement of income and expenditure of the Venture Capital Fund and Science and Technology Development Fund; and
  - (d) such other information as the Minister may require.

(3) The Minister shall, not later than thirty days after the first sitting of the National Assembly next after receipt of the report referred to in sub-paragraph (1), lay it before the National Assembly: N. - ■ ■

## SECOND SCHEDULE

(Section 7)

## PARTI

## ADMINISTRATION FOR MANAGEMENT BOARDS

Seal of  
management  
board

1. (1) The seal of a management board shall be such device as may be determined by the board and be kept by the Secretary.

(2) The affixing of the seal shall be authenticated by the Chairperson or the Vice-Chairperson and the Secretary of a management board or one other person authorised in that behalf by a resolution of the board.

(3) Any contract or instrument which, if entered into or executed by a person not being a body corporate, would not be required to be under seal, may be entered into or executed without seal on behalf of a management board by the Secretary of a management board or any other person generally or specifically authorised by the board behalf.

(4) Any document purporting to be a document under the seal of a management board or issued on behalf of the board shall be received in evidence and shall be executed of issued, as the case may be, without further proof, unless the contrary is proved.

2. (1) Subject to the other provisions of this Act, a member of a Management board shall hold office for a period of three years from the date of appointment and may be re-appointed for a further term of three years:

Provided that the first members shall be appointed for periods ranging from two to three years in order to facilitate retirement by rotation

(2) A member of a management board may resign by giving one month's notice in writing to the Secretary of a management board and the appointing authority.

(3) The office of a member shall become vacant—

(a) upon his death;

(b) if he is absent without reasonable excuse from three consecutive meetings of the Council of which he has had notice;

(c) on ceasing to hold the office by virtue of which he was appointed member of a management board under section ten; or

(d) if he is declared bankrupt.

3. Whenever the office of a member of a management board becomes vacant before the expiry of the term of office, the Minister may appoint another member in place of the member who vacates the office.

4. (1) Subject to the other provisions of this Act, a management board may regulate its own procedure.

(2) A management board shall meet for the transaction of business, at least once in every three months at such places and at such times as the Chairperson of the management board may decide.

Tenure of  
office of  
member

Proceedings  
of manage-  
ment board

(3) Upon giving notice of not less than fourteen days, a meeting of a management board may be called by the Chairperson and shall be called if not less than one third of the members so request in writing:

Provided that if the urgency of any particular matter does not permit the giving of such notice, a special meeting may be called upon giving a shorter notice.

(4) The quorum at any meeting of a management board shall be one half of the members.

(5) There shall preside at any meeting of a management board—

(a) the Chairperson or the Vice-Chairperson; or

(b) in the absence of the Chairperson and the Vice-

Chairperson, such member as the members present may

elect from amongst themselves for purpose of that meeting.

(6) A decision of a management board on any question shall be by a majority of the members present and voting at the meeting and, in the event of an equality of votes, the person presiding at the meeting shall have a casting vote in addition to his deliberative vote.

(7) Where a member is for any reasonable cause unable to attend any meeting of a management board, he may, in writing, nominate another person from the same organisation to attend such meeting in his stead and such person shall be deemed to be a member for the purpose of such meeting.

(8) A management board may invite any person whose presence in its opinion is desirable, to attend and to participate in the deliberations of a meeting of the management board but such person shall have no vote.

(9) The validity of any proceedings, act or decision of a management board shall not be affected by any vacancy in the membership of the board or by any defect in the appointment of any member or by reason that any person not entitled so to do, took part in the proceedings.

(10) A management board shall cause minutes to be kept of the proceedings of every meeting of the board and every meeting of any committee established by the management board.

Committees      5. (1) A management board may, for the purpose of performing board      functions under this Act, establish committees and delegate to any such committee such of its functions as it thinks fit.

(2) A management board may appoint as members of committee establish under subsection (1), persons who are or are not members of the board and such persons shall hold office for such period as the board may determine.

(3) Subject to any specific or general direction of a management board any committee established under subsection (1), may regulate its own procedure.

6. The members shall be paid such remuneration and allowances as a management board may, with the approval of the Minister, determine.

Remuneration and allowances of members

7. (1) If a member is present at a meeting of a management board or any committee of the board at which any matter is the subject of consideration and in which matter the member or the member's spouse is directly or indirectly interested in a private capacity, the member shall, as soon as is practicable after the commencement of the meeting, disclose such interest and shall not, unless the board otherwise directs, take part in any consideration or discussion of, or vote, any question touching such matter.

Disclosure of interest

(2) A disclosure of interest made under this section shall be recorded in the minutes of the meeting at which it is made.

8. (1) A person shall not, without the consent in writing given by or on behalf of a management board, publish or disclose to any unauthorised person, otherwise than in the course of his duties, the contents of any documents, communication or information whatsoever, which relates to, and which has come to his knowledge in the course of his duties under this Act.

Prohibition of publication or disclosure of information to an unauthorised person

(2) Any person who contravenes the provisions of sub-paragraph (1) shall be guilty of an offence and shall be liable, upon conviction, to a fine not exceeding five thousand penalty units or to imprisonment for a term not exceeding three years, or to both..

(3) If any person having any information which to his knowledge has been published or disclosed in contravention of sub-

paragraph (1) unlawfully publishes or communicates any such information to any other person, he shall be guilty of an offence and shall be liable, upon conviction, to a fine not exceeding five thousand penalty units or to imprisonment for a term not exceeding three months or to both.

## PART II

### FINANCIAL PROVISIONS FOR MANAGEMENT BOARDS

9. (1) The funds of a management board shall consist of such moneys as may—

(a) be appropriated by Parliament for the purposes of the management board;

(b) be paid to the management board by way of fees, levy, grants or donations; or

(c) vest in or accrue to the management board.

(2) A management board may—

(a) accept moneys by way of grants or donations from any source in Zambia and, subject to the approval of the Minister, from any source outside Zambia;

(b) raise by way of loans or otherwise, such moneys as it may require for the discharge of its functions; and

(c) in accordance with the regulations made under this Act, charge and collect fees for services provided by the management board.

(3) There shall be paid from the funds of a management board—

(a) the salaries, allowances and loans of the staff of the board;

(b) such reasonable travelling, transport and subsistence

allowances for members or members of any committee of the board when engaged in the business of the board, at such rates as the Minister may determine; and

(c) any other expenses incurred by the board in the performance of its functions. x\*

(4) A management board may invest in such manner as it thinks fit such of its funds as it does not immediately require for the performance of its functions. N

Financial year

10. The financial year of a management board shall be the period of twelve months ending on the 31st of December, in each year.

Accounts

11. A management board shall cause to be kept proper books of account and other records relating to its accounts.

Annual report

12. (1) As soon as is practicable, but not later than six months after the expiry of each financial year, a management board shall submit to the Council a report concerning its activities during financial year.

*Science and Technology* [No. 26 of 1997]

175

(2) The report referred to in paragraph (1) shall include information on the financial affairs of a management board and there shall be appended thereto—

- (a) an audited balance sheet;
- (b) an audited statement of income and expenditure; and
- (c) such other information as the Council may require.

# **STRATEGIC PLAN**

## **2003 - 2007**

**(Final Version – February 2003)**

## Preface

The Ministry of Education in Zambia has formulated this *Five-Year Education Sector Strategic Plan* to address the needs of the Zambian people in the field of education. It has long been recognised that the greatest asset of any country is its human resources. An educated population will be the leading force in the overall development of the country, as well as contributing to a reduction in the poverty levels. Above all education is a basic human right for each individual in society.

This 5 year Strategic Plan (2003-2007) has been based mostly on three key documents: '*Educating our Future*' 1996, the *Poverty Reduction Strategy Paper* (2001/2002), and the *Report on the Restructuring and Decentralisation of the Ministry of Education* (2000). Commitments to Education For All, undertaken by Zambia and the world community at Jomtien in 1990 and reaffirmed at Dakar in 2000, inform this Strategic Plan. The Plan is also guided by a holistic approach to education which recognizes the inter-linkages and interdependencies between the various stages, beginning with early childhood education, running through formal basic and high school provision, encompassing skills training, university and other tertiary institutions, and extending to adult basic education as well as lifelong education.

The strategic planning started in May 2001 through a broadly consultative and participatory process. The Ministry established a Strategic Planning Task Force and the Strategic Planning Secretariat with representatives from other line Ministries, key NGOs and development partners, along with senior managers from the Ministry. In addition, four task forces were established for Basic, High School, Tertiary Education and Administrative Services to carry out the sub-sector reviews. These comprised participants from a wide group of stakeholders.

Broad consultation was carried out through field visits in all provinces and consultative stakeholder workshops. Those consulted included pupils, parents, teachers, community leaders, civil society representatives, personnel from the Ministry of Finance and National Planning, other line ministries and international development partners. The planning process included major inputs from all District and Provincial Education Offices, in addition to senior management from the Headquarters and the two Universities.

Access and quality are seen as the major challenges facing Zambia in education. In order for the Ministry of Education to overcome these challenges, it will be necessary to solicit active participation from the broadest spectrum of stakeholders. These include other government agencies and ministries, wide representation from civil society, religious organisations, the private sector and international development agencies. In particular, these challenges must be addressed through teachers and lecturers, who are the front line in the provision of education. Lastly, and most importantly, the parents and the learners must participate in the process of change that will lead to greater access and quality in education.

The government has demonstrated a serious commitment to improving access by the announcement of Free Basic Education for Grades 1-7 in February 2002. This was followed by increased budgetary allocation to the sector. It is essential that this level of allocation is maintained and increased as Zambia's education budget has been one of the lowest in the region. It is also hoped that an increased level of commitment by the government will be matched by additional financial and moral support from communities and our development partners to ensure the successful implementation of this Plan.

*Permanent Secretary  
Ministry of Education*

## **1 Acknowledgement**

Development of the Sector Plan for the Ministry of Education commenced in June of 2001 on a full scale. Although this could have been done as a desk exercise by a small group of consultants, the Ministry chose the long path of taking every conceivable group of stakeholders on board. The enthusiasm, willingness and tremendous support the Ministry has received in this effort cannot go without mention.

First and foremost we remember and honour the late Christopher Isaac Zulu, former Chief Inspector of Schools who upon retirement kindly agreed to work on a full time basis as chairperson of the Strategic Planning Secretariat. The Ministry, and in particular the secretariat, overwhelmingly benefited from the vast and rich experience of Christopher Isaac Zulu in a manner words cannot describe. Though the time he spent on this assignment was short comparative to the length of the process, he effectively contributed to setting a firm and solid foundation upon which the end product we proudly see today was built.

We are grateful to the Minister of Education for the policy direction and encouragement. We also pay special tribute to the women and men of vast experience and knowledge in the field of education who sat on the overall strategic planning task force for the policy and professional direction they provided, and more so acknowledge the contributions of the then chairperson Dr. S M Kasanda who was Permanent Secretary at the time. In the same vein we thank members of the four sub-sector task forces who held nothing back to make informed contributions towards the development of the sector plan. Special mention should be made of the dedication and productivity of the Strategic Planning Secretariat who steered and co-ordinated the process throughout.

The Ministry will remain forever indebted to its own pupils and students, the teachers and lecturers, teacher unions, churches, NGOs, and parents for the support they gave this process at institutional, district, provincial and national levels. Further, the two universities had shown very high-level commitment to the entire process that we feel encouraged in this undertaking of rebuilding our country through education. The kind of support received this far has been reassuring and raises our hopes that even when implementing the plan, we shall get the required support at all levels.

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**B Y Chilangwa (Mrs.)  
Permanent Secretary,  
MINISTRY OF EDUCATION**

## TABLE OF CONTENTS

**Preface**
**Acknowledgement**
**Acronyms** ..... **6**
**1 Acknowledgement** ..... **3**
**Acronyms** ..... **7**
**2 Strategic Plan Context** ..... **8**

## 2.1 Introduction ..... 8

## 2.2 Vision and Goals ..... 8

## 2.3 Strategic Priorities ..... 9

## 2.4 Policy Context ..... 10

## 1.4.1 Poverty Reduction ..... 10

## 1.4.2 Free Basic Education (Grades 1-7) ..... 11

## 1.4.3 Orphans and Out-of-School Children ..... 12

## 1.4.4 Access to High School Education ..... 12

## 1.4.5 Universities ..... 13

## 1.4.7 Special Programmes ..... 13

## 1.4.6 Quality and Relevance ..... 14

## 1.4.7 Early Childhood Care, Education and Development ..... 15

## 1.4.8 Adult Literacy ..... 15

## 1.4.9 Teachers' Pay and Conditions ..... 16

## 1.4.10 Partnerships in Education ..... 16

## 2.5 Economic Context ..... 16

## 1.5.1 Budgetary Allocations to Education ..... 18

## 1.5.2 Efficiency Measures, Cost-Sharing and Partnerships with the Private Sector ..... 18

## 2.6 Institutional Context ..... 19

## 1.6.1 Change Management ..... 19

## 1.6.2 Decentralisation and Education Boards ..... 19

## 1.6.3 Decentralisation of procurement of textbooks and learning materials ..... 20

## 2.7 Research and Studies ..... 20

**3 Strategic Programmes** ..... **21**

## 3.1 Basic Education ..... 22

## 2.1.1 Situational Analysis ..... 22

## 2.1.2 Sub-sector Goals ..... 23

## SUB-SECTOR GOAL ..... 23

## 2.1.3 Strategic Summary ..... 24

## 2.1.4 Cost Projections for Basic Education ..... 31

## 3.2 High School Education ..... 33

## 2.2.1 Situational Analysis ..... 33

## 2.2.2 Sub-sector Goals ..... 35

## WORK PROGRAMMES ..... 35

## SUB-SECTOR GOAL ..... 35

## 2.2.3 Strategic Summary ..... 35

## 2.2.4 Cost Projections for High School Education ..... 39

2.3 Tertiary Education .....	40
2.3.1 <i>Situational Analysis</i> .....	40
2.3.2 Sub-sector Goals .....	41
SUB-SECTOR GOAL .....	41
2.3.3 Strategic Summary .....	42
2.3.4. Cost Projections for Tertiary Education .....	45
2.4 Administrative and Support Services .....	46
2.4.1 Situational Analysis .....	46
2.4.2 Sub-sector Goals .....	47
<b>GOAL 47</b>	
Human Resource and .....	48
2.4.3 Strategic Summary .....	48
2.4.4 Cost Projections for Administrative and Support Services .....	52
Sub-Programmes .....	53
Sub-Programmes .....	53
2.4.5.1 <i>Management and Monitoring of the Programmes</i> .....	55
2.4.5.2 Management and implementation levels and functions.....	55
2.4.6 National Implementation Framework .....	57
2.4.7.3 Other Funding.....	58
2.4.8 Management of Funds: Integrated Accounting Systems .....	58
2.4.9 Release of Funds by co-operating partners .....	58
2.4.10 Resource Allocations.....	59
2.4.11 Annual Work Plans and Budgets .....	59
2.4.12 Monitoring and Evaluation.....	60
<b>3. Financing of Strategic Programmes.....</b>	<b>62</b>
3.1 <i>Introduction</i> .....	62
3.3 Rates and Ratios .....	68

## Tables

Table 1 Enrolment Targets .....	24
Table 2 Teacher Requirements .....	26
Table 3 Comparing Annual Teacher Needs with Projected Teacher Output .....	26
Table 4 Capital Expenditure Projections (Million Kwacha, 2001 constant Prices).....	27
Table 5 Projected recurrent Unit Expenditure by sub sector and cost item .....	29
Table 6 Costing Projections in Constant Kwacha at 2001 Prices.....	32
Table 7 Enrolment Related Targets.....	36
Table 8 Teacher requirements .....	38
Table 9 Teaching and Learning Material (TLM) Requirements .....	38
Table 10 Cost Projections for High Schools .....	39
Table 11 Comparing Annual Teacher Needs with Projected Teacher Output .....	42
Table 12 Expenditure Projections for Teacher Education .....	45
Table 13 Administration and Support Services .....	52
Table 14 Recurrent Costs (2003 - 2007) .....	63
Table 15 Recurrent Cost Projections in Millions of Kwacha at 2001 Constant Prices .....	65
Table 16 Annual Capital Allocation in Millions of Kwacha at 2001 Constant Prices .....	66
Table 17 Funding Gap Analysis (Million Kwacha, Current Prices) .....	67
Table 18 Summary of Milestone Targets.....	68

**Figures**

Figure 1	Percentage of Out-of-School Children in the Age Group 7 – 13 (2001) .....	11
Figure 2	Education Allocation as a % of GDP .....	18
Figure 3	Enrolment Trends by for Grades 1 – 7 by Gender (1996 - 2002) .....	22
Figure 4	Evolution of Middle Basic Enrolment rates .....	25
Figure 5	Capital Allocation by Sub-sector (2003 - 2007) .....	28
Figure 7	Secondary School enrolment Projections.....	37
Figure 8	Restructured Ministry of Education.....	49
Figure 9	Recurrent and Capital Costs Changes Between 2003 and 2007 .....	64
Figure 10	Proportionate Increase Between 2003 and 2007 .....	64
Figure 11	Capital Allocation by Sub-sector.....	66
Figure 12	Distribution of External Resources Across Priority 12 Programmes.....	68

**Appendices**

1. Logical Framework
2. Index of Projection Tables and Related Summary of Costing
3. Sub-sector Objectives
4. Support Services Objective
5. National Implementation Framework

## Acronyms

- AIDS Acquired Immune Deficiency Syndrome
- APU Academic Production Units
- BECF Basic Education Curriculum Framework
- BESSIP Basic Education Sub-Sector Investment Programme
- CBU Copperbelt University
- CPD Continuous Professional Development
- CSEN Children with Special Educational Needs
- DEB District Education Board
- DEBS District Education Board Secretary
- DESO District Education Standards Office/Officer
- DSF Designated Support Fund
- DSSF Direct Sector Support Fund
- EB Education Board (e.g. for high schools/colleges)
- ECCED Early Childhood Care, Education and Development
- EFA Education for All
- EMIS Educational Management Information System
- GDP Gross Domestic Product
- GER Gross Enrolment Ratio
- HIPC Highly Indebted Poor Country
- HIV Human Immunodeficiency Virus
- HRAD Human Resources and Administration Directorate
- ICT Information Communication Technology
- IFMIS Integrated Financial Management Information System
- MEPSU Ministry of Education Purchasing and Supplies Unit
- MoE Ministry of Education
- MoFNP Ministry of Finance and National Planning
- NER Net Enrolment Ratio
- NGOs Non-governmental organisations
- NIF National Implementation Framework
- NISTCOL National In-Service College
- OSF Other Support Fund
- PEO Provincial Education Office/Officer
- PRSP Poverty Reduction Strategy Paper
- PSRP Public Service Reform Programme
- PTA Parent Teachers' Association
- SHN School Health and Nutrition
- TEVETA Technical Education, Vocational and Entrepreneurship Authority
- TRC Teachers' Resource Centre
- TTCs Teacher Training Colleges
- UNZA University of Zambia
- ZATEC Zambia Teacher Education Course

## 2 Strategic Plan Context

### 2.1 Introduction

Zambia's national education policy document, '*Educating our Future*' 1996 laid down a clear vision for reforms of the whole education sector in line with changing international, national and individual needs. However, no practical strategies and implementation plans were developed initially to realise the vision, while poverty in Zambia increased and equitable access to education diminished.

The major challenges for education in Zambia are articulated in detail in the document '*Education in Zambia 2002*' which sets the overall context for this Strategic Plan. They include :

- the achievement of Universal Basic Education for Grades 1-9;
- improvement in progression rates from Grades 7 to 8 and from Grades 9 to 10;
- increase in retention and completion rates for Grades 1 – 9;
- improved access to high school and tertiary education, particularly for the poor, girls and children with special needs;
- adequate supplies of trained and motivated teachers and lecturers for all levels;
- reform of the curriculum at basic, high school and tertiary levels to provide relevant skills and knowledge; sufficient learning/teaching materials for all levels;
- effective decentralisation of education delivery; management/mitigation of HIV/AIDS;
- an increase in budgetary allocation to the education sector.

In the absence of a sector-wide plan, the Ministry of Education (MoE) initiated the Basic Education Sub-Sector Investment Programme (BESSIP) in 1999 in collaboration with its development partners. It provided for a variety of funding and technical support mechanisms, although the Ministry's preferred option was pooled budgetary funding. The strength of BESSIP is that it tackled the immediate issue of access and equity in basic education from Grades 1-7, and developed a model for Zambian ownership and more effective, co-ordinated support from international development agencies.

However, the emphasis on basic education meant that similar reforms needed in high school and tertiary education have not been fully implemented. In addition, it is generally recognised that expanding basic education enrolment increases demand for the next level, while even a slow-developing economy requires the higher order skills provided by post-basic education. The latter also provides the skills and competencies necessary for self-employment and enterprise, thereby contributing to economic growth and poverty reduction. Furthermore, any gains in gender equity, quality and decentralisation have to be sustained throughout the whole system.

### 2.2 Vision and Goals

The vision and goals have been structured into four main themes which are reflected throughout the basic, high school, tertiary sub-sectors, and administrative services :

#### Vision Statement

Quality lifelong education for all, which is accessible, inclusive, equitable and relevant to individual, national, global needs and value systems.

## Overall Sector Goals

<b>Access/Equity</b>	1. Equitable access to education at all levels through formal and alternative modes of delivery in partnership with key stakeholders.
<b>Quality</b>	2. Quality and relevant education, which enhances knowledge, skills, attitudes, values and lifelong learning.
<b>Administration, Financing and Management</b>	3. An improved policy formulation, planning and information management environment. 4. A sufficient, skilled and motivated human resource for the education system. 5. A properly financed, professionally managed, accountable and cost-effective decentralised education delivery system.
<b>HIV/AIDS</b>	6. An education system that counters the HIV/AIDS pandemic and manages its impact on education delivery, poverty and gender inequity.

### 2.3 Strategic Priorities

This Strategic Plan, therefore, will address all the sub-sectors of education but strive to remain realistic within the constraints of capacity, finance and time-scale. The main priorities will be:

- improved access, gender equity and quality in basic education (Grades 1-9);
- improved quality and efficiency in high school and tertiary education;
- development of relevant skills and enhanced learning achievement by all learners;
- effective decentralisation of decision-making, procurement and financial management to districts and schools;
- management/mitigation of the impact of HIV/AIDS.

From 2003-2005, the emphasis will be largely on Grades 1-9, particularly expansion of enrolment to grades 8 and 9. This has implications for teacher supply, and so teacher education will also be prioritised at the same time. During this period, a number of reviews and studies will be carried out into high school and university education reforms, particularly in terms of improving access, quality and cost-efficiency. Some rehabilitation of high school and university infrastructure will be undertaken in addition to the expansion programme institutions and communities have already embarked on. However major investment and reforms in post-basic education will begin from 2005. This is against a background of virtually no capital investments in high school and tertiary institutions in the past 10 years.

In addition, remote and disadvantaged areas will be specifically targeted for additional resource allocation, teacher deployment, and construction or rehabilitation of infrastructure. An analysis of districts will be undertaken to identify those districts and zones that need special targeting for education provision. Alongside this focus a number of strategies will be adopted to target out-of-school children, particularly orphans and vulnerable groups.

Early Childhood Care Education and Development will be introduced as a major new programme because of its impact on quality in basic schools. The programme will be introduced gradually from 2004 onwards and will target rural schools. Similarly, adult literacy programmes, which impact on parents' support to children's education will be developed gradually from 2004 onwards. School health and nutrition programmes will be expanded to link in with ECCED in terms of quality impact and readiness to learn.

The Ministry is aiming to increase enrolments for Grades 1 to 7 by 20% during the period 2002 to 2007 from the baseline of 1,921,014 in 2002 to 2,302,386 in 2007. The Upper Basic enrolment (grades 8 and 9) will also be increased by 49% from the baseline of 219,024 to 325,581 in 2007. High School will also be increased by 53% from 135,979 to 207,843 in 2007. Teacher training on the other hand will remain constant largely because of the current college expansion programmes and focus on quality. Pre-service student enrolments remain constant at 11,683. University enrolments will be increased by 35% percent from 8,965 pupils to 12,103.

The Plan is structured as follows. The **Strategic Context** contains the introduction, the overall vision and goals, and policy, social, economic, and institutional contexts. **Strategic Programmes** includes goals, strategies, and related work programmes of basic, high school, tertiary sub-sectors, administrative and support services,. Finally, **Financing of Strategic Programmes**, outlines the cost projections and targets.

## 2.4 Policy Context

### 1.4.1 Poverty Reduction

In the Poverty Reduction Strategy Paper, the government states clearly that health and education sectors are among the top priorities along with addressing the HIV/AIDS pandemic. It recognises that with the collapse of the traditional social security system of the extended family, state-funded safety nets need to be managed and supported financially. However it asserts that this calls for better targeting of the poor and most vulnerable people, and improved tools for identifying these groups. In addition, the PRSP prioritises agriculture, tourism and diversification from mining into small and medium scale businesses and industries as the main engines of economic revival. This has implications for the kinds of skills and competencies that formal and informal education and training needs to inculcate in order to contribute to poverty reduction. The Strategic Plan has absorbed all the major PRSP education strategies and targets into its goals and objectives but extended the timeframe to 5 years.

These targets include extending basic education to grades 8 and 9 by converting all middle basic schools into full basic education institutions, renewing emphasis on equity issues including abolition of school fees and uniforms, and providing greater support to girls' education, HIV/AIDS orphans and children with special needs. The Strategic Plan also addresses the key manifestations of poverty in the education system in terms of improving completion rates, learning achievement, pupil and teacher attendance, health and nutrition, and overall quality.

The quality and relevance of high school and tertiary education will both be improved in terms of knowledge and skills development. The High School curriculum will be reviewed to make it more relevant and responsive, and to enable graduates to acquire high-level skills. In addition, stronger linkages will be developed between life skills, practical subjects in basic and high schools and the skills training provided by institutions registered with the Technical Education, Vocational and Entrepreneurship Authority (TEVETA).

Distance education and other modes of open learning will be improved and expanded to capture more of the out-of-school population, while early childhood education and adult literacy programmes will be revitalised, particularly for rural communities.

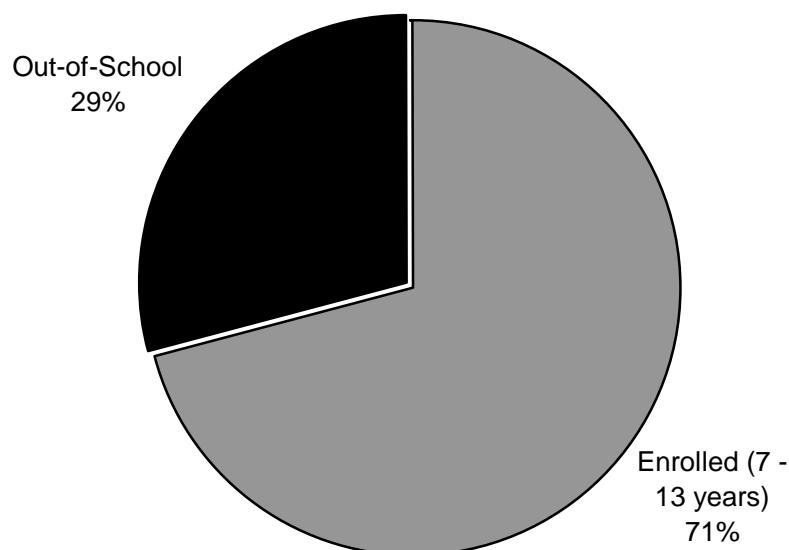
#### **1.4.2 Free Basic Education (Grades 1-7)**

The Free Middle Basic Education policy (Grades 1-7) was announced in February 2002 by the President of the Republic. This was followed up by a circular to all schools and education offices explaining what Free Basic Education entails. All user fees have been abolished from Grades 1-7 and uniforms are not compulsory. Education Boards and PTAs may raise funds through various activities, but no child can be denied access to school on account of costs.

The policy will be backed up by the following measures: sensitisation of communities about the importance of educating girls, women, orphans and the vulnerable; distribution of grants to all government and recognised community schools based on unit cost, learner population and equity-based criteria; provision of infrastructure and learning materials ; bursaries for orphans and children with special needs for basic essentials like clothing, and weekly boarding facilities for those without adequate home-based care.

These measures are likely to bring about a substantial increase in enrolment in basic schools to reduce the percentage of out-of-school children shown in figure 1. However, they also have strong financial implications for the government. The Annual School Census for the period from 2001 to 2002, including the declaration of Free Middle Basic Education , indicated a significant growth of 7% in pupil enrolment. This is in sharp contrast to previous trends when enrolments were increasing at lower than 2% every year.

**Figure 1 Percentage of Out-of-School Children in the Age Group 7 – 13 (2001)**



Source: CSO; Ministry of Education, Planning Unit; ZCSS

Despite the inequity it caused, cost sharing by parents did create participation in their children's education. Communities will therefore be encouraged to maintain strong involvement in schools through development of 'social contracts' detailing the different

support mechanisms. In addition, cost sharing will still be required in Grades 8 and 9, 10-12 and at tertiary level.

#### **1.4.3 *Orphans and Out-of-School Children***

Despite the introduction of free basic education for Grades 1-7, a number of children, particularly orphans, may not enrol in the government system for a variety of reasons. Specific strategies will be implemented to address this challenge, including bursaries for basic clothing and school materials along with weekly boarding facilities. In addition, the Ministry will set up a task force in conjunction with the Ministry of Community Development and Social Services, Ministry of Youth, Sports and Child Development, Ministry of Health, NGOs, religious organisations and co-operating partners to develop a variety of informal and alternative approaches to reaching these children.

##### *Community Schools and Interactive Radio Centres*

The Ministry recognizes that over the last four years two kinds of successful alternative approaches that address enrolment of orphans and vulnerable groups have already been established. Therefore new agreements and memoranda of understanding will be developed with community schools and interactive radio centres to provide specific access for out-of-school children. These agreements will increase Ministry support through grants and materials while still preserving strong community ownership.

Due to the large expansion of community schools, it is important to establish quality control measures through standards officers, leading to formal registration with the Ministry before these institutions are provided with government support. This process may also result in the best community schools becoming grant-aided schools. Conversely some community schools may become redundant as removal of fees encourages pupils to return to the government system. The interactive radio centres are also transitional structures pending adequate government provision, but should be monitored for consistency. However radio programmes will continue to be used in the long-term to supplement learning and teaching in regular schools.

#### **1.4.4 *Access to High School Education***

Recent studies have revealed that secondary education increases chances of formal sector employment or of acquiring skills and competencies for informal sector work. Employers often prefer those with successful general secondary education in terms of 'trainability' while secondary school leavers are more likely to have higher average earnings than those that have completed primary education. Gender inequity is still more marked in secondary school, and yet further schooling influences factors such as improved family health , nutrition and family planning. However, there is a need to improve both the relevance and efficiency of high school education.

A number of cost-efficiency measures are described under Financing of Education that will contribute to increased access to high school, including single-shifting where pupil-teacher ratios allow, better utilisation of teachers, and increase in classroom space when Grades 8 and 9 classes are moved to basic schools. A comprehensive sub-sector review will be carried out in 2003 particularly on increasing access, equity, quality and efficiency. The curriculum will be reviewed to strengthen the linkages between high schools, skills training centres under TEVETA and higher education institutions.

##### *Academic Production Units*

The system of Academic Production Units in Grades 8 to 12 in some schools, where private tuition fees are paid and special classes conducted, has been criticised for its management and accountability, but it widens access and raises revenue for schools. In future, once the intake of eligible pupils has been completed, each school will be allowed to enrol pupils who did not make the examination grade, according to the classroom space available. The revenue will be collected and used by each Education Board according to standard guidelines that will be revised and administered by the Directorate of Planning and Information. The finances will be monitored and audited by Provincial Education Offices to ensure that procedures are followed.

#### ***1.4.5 Universities***

Although the universities are autonomous institutions, the Ministry is responsible for providing bursaries for students and grants towards upkeep of those institutions. While improved access and quality is targeted, the universities will need to implement wide-ranging reforms and restructuring to reduce the accumulated debts and turn the institutions into efficiently administered entities that are effectively engaged in capacity building, the development agenda, and poverty reduction strategies. This will involve much greater engagement in human resource planning, review of course structures and content through dialogue with government, civil society and private sector, and review of staff remuneration packages. Communications between the Ministry and the universities will be strengthened by establishing a Higher Education liaison officer in the Directorate of Standards and Curriculum Development, and involvement of top university management in the Ministry senior management meetings.

#### ***1.4.6 Open and Distance Learning***

The opportunities that this mode of access can provide has not been fully realised in the past, with only about 600 students catered for by the University of Zambia, and less than 5,000 students enrolled under the Department of Continuing Education in the Ministry of Education. The training of open learning tutors has been neglected along with provision of appropriate materials, equipment and infrastructure. Under the new Directorate of Distance Education, there will be a complete overhaul of open and distance-learning provision, including training of tutors, production of quality learning materials, and streamlined management and co-ordination. The National Correspondence College will be restructured and financed to improve the overall quality of delivery, and increased use made of information and communications technology, particularly radio, to enhance learning.

Stronger linkages will be established with the universities and other distance learning institutions, and successful programmes like the Distance Diploma in Primary Education expanded and updated. The network of Teacher Resource Centres in the country will be fully utilised for certain levels of distance education, along with the high schools that are currently used as open learning centres. The Interactive Radio Initiative will also be developed, so that programmes can support key issues like HIV/AIDS and reach regular schools as well as the IRI centres.

#### ***1.4.7 Special Programmes***

BESSIP has introduced a number of innovative, crosscutting programmes that will be incorporated into the new Ministry structures, strengthened and expanded. These include HIV/AIDS, School Health and Nutrition, Special Educational Needs, and Gender and Equity, with a particular emphasis on girls' education.

**HIV/AIDS**

The greatest challenge remains the management and mitigation of the effect of HIV/AIDS on the teaching force in particular, but also on pupils, support workers and education officials throughout the country. Teacher attrition rates have been quoted as high as 1,600 basic education teachers lost to the system each year. This negates recent efforts to improve teacher output and redeployment.

The Ministry of Education has developed a comprehensive HIV/AIDS strategy under BESSIP which will be scaled up. Activities under this programme will include advocacy and sensitisation campaigns, development of workplace policies to provide counselling and protection to all in education institutions, and planning based on impact studies, particularly for the replacement of sick and absent teachers.

#### *School Health and Nutrition*

Specific initiatives have already been trialled under BESSIP, particularly nutrient supplementation. However, there is a strong connection here with the development of sustainable food security in the country as a whole. Therefore in addition to widening the current programme, the Ministry will encourage the expansion of agricultural production units at basic, high schools and colleges that will supplement the diet of pupils and students, as well as developing livelihood skills. In addition, through PTAs and Education Boards, parents will be sensitised to contribute to their children's education by ensuring they do not go to school hungry. Partnerships with the World Food Programme and other organisations will also be strengthened to ensure that targeted vulnerable school communities, particularly during periods of drought, are supported through carefully designed school feeding programmes.

#### *Special Educational Needs*

A number of inclusive schooling initiatives will be expanded, including training of more teachers at Zambia Institute of Special Education (ZAMISE), identification and assessment of special needs pupils, and provision of specialist materials and equipment. Schools will be given incentives in the form of additional grants and/or bursaries to enrol more children with special needs from the local communities.

#### *Gender and Equity - Girls' Education*

There will be a continuation of initiatives aimed at increasing participation by girls in basic and high school education. Despite improvements in overall enrolment, there are still alarming dropout rates in grades 7 and 9. The rates are attributed to early marriage, pregnancies or simply demand for girls to assist with looking after the family. With boys too, poverty levels often force parents to take them out of school to assist with fishing, farming or small family businesses. Initiatives will include more effective sensitisation of traditional leaders, communities and parents, targeted grants and bursaries, and adjustment of school timetable and term dates to fit in with seasonal work activities. Visible improvement in literacy and numeracy also seems to encourage parents to keep both sexes in school, consequently, innovative programmes like the Primary (Middle Basic) Reading Programme will be strengthened and expanded.

#### **1.4.6 Quality and Relevance**

##### *Literacy and Numeracy*

Under BESSIP, a major success story has been the Primary (Middle Basic) Reading Programme which tackles initial literacy in Zambian languages before developing the same oral, reading and writing skills in English. The programme also enhances other skills and is

sustained throughout the 7 years of middle basic education. A similar programme in numeracy is also required in order to ensure a more comprehensive improvement in learning achievement levels in basic education.

#### *Life Skills and Skills Development*

The Basic Education Curriculum Framework has already introduced a number of life skills as an integral part of each subject and cross-curricular theme in basic education. The Framework defines different sets of life skills: intellectual skills (e.g. reading, deduction, analysis); learning skills (e.g. independent study); social life skills (e.g. handling peer pressure, communication); psychological life skills (e.g. handling personal problems); psychomotor skills (e.g. using hands/body skilfully); and, practical life skills (e.g. using tools, selling goods/services). HIV/AIDS issues link in very strongly with psychosocial life skills.

In terms of practical subjects, which are related to practical life skills, the basic curriculum now includes information technology, art and design, industrial arts, construction and maintenance from Grades 5-7. The syllabi for all these additional topics/subjects are being developed and will be reviewed and revised where necessary. In addition, the Curriculum Framework will be extended to Grades 8 and 9.

In reviewing the curriculum for High Schools, the Ministry of Education will co-ordinate with the Ministry of Science, Technology and Vocational Training and TEVETA to ensure that any pre-vocational or practical skills programmes introduced into high schools are part of a general vocational qualifications framework that links up with the Skills Training Centres and colleges providing professional courses. The high school curriculum will also build on the life skills programme introduced in basic education, including information technology and appropriate psychosocial life skills such as HIV/AIDS, human rights and governance issues. In turn, all teacher education institutions will include life skills and the relevant practical subjects in their curricula.

#### ***1.4.7 Early Childhood Care, Education and Development***

The lack of preparation through pre-school is a contributory factor to under-achievement especially by rural children and the poor in basic schools. The Ministry of Education will work closely with Ministry of Local Government and in particular with the Pre-School Association of Zambia, district councils, religious organisations, NGOs and the private sector to set up a number of pre-school classes in existing rural and semi-urban basic schools.

In line with Education for All (EFA) commitments and PRSP, Zambia will expand activities for young children, 0-5 years old, with emphasis on community based interventions. In addition, Early Childhood Care, Education and Development (ECCED) will become part of basic education, which will make it easier for basic schools to host programmes in this sub-sector and hence increase access for many rural children, particularly from marginalized communities. In order to provide quality assurance, the Ministry will further expand the training of teachers in this sub-sector.

#### ***1.4.8 Adult Literacy***

Another significant factor affecting attendance of children and poverty reduction, is the level of parents' education. Adult literacy and adult basic education has lacked co-ordination and funding for materials, tutor training and learner support. Therefore, the Ministry of Education will work closely with the Ministry of Community Development and Social Services, the Adult Education Association of Zambia, non-governmental organisations, religious organisations and UNZA to implement a gradual improvement in adult literacy provision. A representative task force from these stakeholders will be set up to review all

the current initiatives, analyse strengths and weaknesses, and co-ordinate the development of a programme, in conjunction with the Directorate of Distance Education, to establish adult literacy centres in education zones according to demand.

The adult literacy programme will revamp the low national literacy levels, and increase access to adult literacy by all marginalized groups. The quality of literacy programmes will be improved, and the capacity of providers will be enhanced. Equally, communities will be sensitised to demand access to literacy programmes. In addition, opportunities will be created for literacy graduates to continue learning through distance education modes such as Interactive Radio Instruction (IRI) and Community Schools.

#### **1.4.9 Teachers' Pay and Conditions**

The Ministry recognizes the crucial role that teachers and lecturers play in the education system and the importance of developing a strong and sufficient professional cadre through proper pay scales and incentives. It will work with Ministry of Finance and National Planning and teachers' unions to review pay and conditions regularly within the context of overall pay reform and within the constraints of economic growth. More attention will be paid to non-salary benefits such as housing allowances, rural hardship incentives, promotions, and access to further staff development and upgrading opportunities. In connection with the latter, Teachers' Resource Centres will be developed as effective distance learning centres in addition to their current roles.

#### **1.4 10 Partnerships in Education**

The Ministry has already been working with civil society and specific non-governmental organisations in developing the Education Chapter of the PRSP, the Strategic Plan, and in implementing activities in HIV/AIDS, Gender and Equity and School Health and Nutrition. These partnerships will continue to be formalised through contracts and memoranda of understanding, such as in the case of Community Schools. In addition, there will be a strengthening of the long-standing relationship with religious organisations who still have major influence in the running of a number of high schools in particular. Similarly, the private sector plays a major role in provision of basic, high school and college education and this will be encouraged further. An officer in the Standards and Curriculum Development Directorate will be appointed to liaise with the various bodies and groups with specific interest in education.

### **2.5 Economic Context**

The economic prospects for Zambia seemed good in 1991. However, despite the government's implementation of a substantial donor supported programme of liberalisation and market based reforms, the economic performance of the early 1990's continued Zambia's record of low and uneven growth. Per capita incomes and living standards continued to fall. Human development indicators reveal that poverty and social indicators worsened. Zambia's growth started to improve in the mid 1990s, averaging 3.2% over the last seven years (1996-2002) despite a sharp fall in copper production in this period, and this marks a gradual improvement from decades of decline. But sustained and even growth has remained elusive, principally due to failed privatisation of parastatals, especially in the copper sector, the vulnerability of agricultural production to climatic changes and a 'stop-go' approach to aid flows from donors reflecting various disputes and concerns about growing corruption under the previous administration. The privatisation of Zambia Consolidated Copper Mines in 2000 was a catalyst for Zambia's passing the Decision Point under the Enhanced HIPC Initiative in December 2000. Without HIPC, Zambia's current debt service

from 2001-2005 would have been excessive, (\$430m per year arising from payments due to the IMF for their substantial lending programmes during the 1990s). Hence reaching Completion Point under HIPC and maintaining macroeconomic stability are crucial elements underlying Zambia's PRSP. The broad economic stability and growth witnessed during the last two to three years is promising in this respect.

Although the improvement in economic performance since the mid 1990s has been significant when seen in the context of previous long-term stagnation, it has not yet been sufficient to overcome three core economic challenges. Firstly there is the legacy of chronic and persistent external and fiscal deficits which underpin the problem of Zambia's debt burden. Secondly Zambia's overall economic progress is still vulnerable to the erratic performance of the copper and agricultural sectors. Thirdly the structural weaknesses, which have prevented sustained and vigorous private sector led growth still remain. Recent developments include rapidly increasing imports of investment goods to the mining and tourism sectors. Mining exports picked up after privatisation of the mines, but the improvement, in both production and prices, has been well below expectations at the time. Non-traditional exports, which have more than doubled in the last decade, and tourism are picking up again and remain the bright spots. Under the current PRGF (Poverty Reduction Growth Facility), Zambia has also established a degree of fiscal control sufficient to prevent a re-emergence of the extremely high inflation witnessed at various times in the 1990s, but has yet to get a firm and lasting grip on government expenditure. The failure to establish a fully credible medium term fiscal plan has also precluded full stabilisation, with inflation remaining persistently above 20%, giving Zambia one of the worst inflation records in Africa.

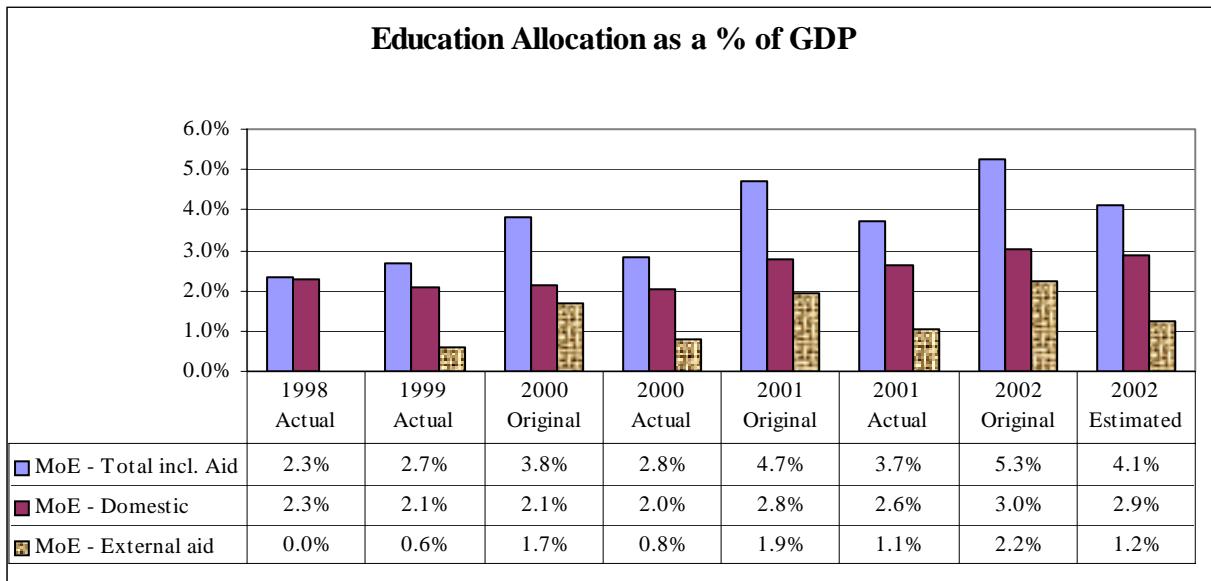
These two sectors of copper and agriculture remain the critical loci for Zambia's economic and social vulnerability and they are again threatening to undermine economic progress. The fall in the copper price from mid 2001 precipitated Anglo American's exit from Zambia's main copper producer, Konkola Copper Mines (KCM). KCM has been restructured and copper production remained robust in 2002, but the potential crisis highlighted Zambia's excessive dependence on and vulnerability to copper yet again. In the medium to longer term a substantial diversification effort will be required to set Zambia's external situation on a sustainable footing. Furthermore, Zambia is again facing a food shortage, a regional problem, having suffered from two years of adverse weather conditions. Maize production for the 2002 season has been just half the average of the last five years and Zambia's agricultural sector, and the nutritional requirements of the poor, remains excessively dependent on maize.

The PRSP acknowledges the need for a realistically gradual approach to poverty reduction given the pervasive problems and constraints facing Zambia. First, while the debt relief arrangements will, in practical terms, mean avoidance of a sharply increased debt repayment schedule over the next few years , it does not mean reduced repayments from one year to the next. Secondly, in order to transfer resources from one part of the budget to another the government needs to address a raft of underlying problems in current resource allocation which have been building over successive recurrent budgets. A wide-ranging reform effort in public expenditure management will be required to unwind these commitments over time and free up resources for pro-poor purposes. Similarly wide ranging efforts will be required to establish a diversified private sector, which can move beyond dependence on copper and subsistence agriculture. Zambia has,however, qualified for a Poverty Reduction Growth Facility of \$300 million from the IMF when the Poverty Reduction Strategy Paper was approved in May 2002.

### 1.5.1 Budgetary Allocations to Education

The budget allocation to education in Zambia is the lowest in the sub-region. Just over 20% of the total disposable budget was allocated to education in 2001, compared to 25% - 30% in other countries in the sub-region. Over the past five years the education budget has remained at just over 2% of GDP compared to 5% - 6% in neighbouring countries. In 2001, the education sector received 21% of the HIPC resources, which accounted for 10% of the education budget. The achievement of the targets put forward in this plan would necessitate a significant increase to finance the recurrent expenditure alone. The additional funds currently targeted for education under the PRSP would increase the budget by 12%.

**Figure 2 Education Allocation as a % of GDP**



As noted in the figure above, allocation to education from government's own resources has been oscillating between 2.0% and 3.0% during the period 1998 to 2002. On the overall, education allocation as a proportion of GDP has increased from the actual of 2.3% to an estimated actual of 4.1% in 2002 (this includes external funding). There have been very minor variations between actual budget expenditure and the original budget for domestic resources while actual expenditure under external financing show appreciable disparities between actual expenditure and original budget.

### 1.5.2 Efficiency Measures, Cost-Sharing and Partnerships with the Private Sector

The prospects for cost sharing cost-recovery are limited due to high poverty levels in the country. However, greater efficiency measures can be introduced in upper basic, high school and tertiary institutions through better utilisation of teaching staff, reduced unit costs in construction and learning materials, and improved school planning and management.

There exists potential for partnerships with the private sector in both high school and tertiary education through leasing of land, encouragement for local companies to invest in educational facilities, tax incentives, voucher schemes, teacher provision and flexible but consistent regulatory frameworks.

Relationships with traditional partners such as religious institutions in terms of grant-aided schools will also be strengthened. Nevertheless, the financing gap is such that the government will continue to need assistance from international development agencies.

## 2.6 Institutional Context

The Ministry of Education is currently carrying out its restructuring process in the context of broader Public Service and Governance reforms. Under the Public Service Reform Programme (PSRP), a number of reforms are projected in terms of wage policy and employment; payroll management and establishment control; financial management system implementation; anti-corruption programmes and local government. Additionally, the Ministry will within the broadly accepted framework adjust its organisation structures, systems and procedures based on the demands of the time in order to enhance organisational effectiveness. The government has also declared a strong stance against corruption, particularly within the government structures in terms of financial management and procurement. It is notable that the Ministry of Education has been selected to pilot the Integrated Financial Management Information System (IFMIS) and the World Bank-initiated Public Expenditure Tracking System (PETS) due to its relatively strong track record.

### 1.6.1 Change Management

The restructured Ministry of Education will consist of five Directorates, which are described in greater detail under Administrative Services. BESSIP will be absorbed into the line functions of the new Directorates as well as the High School and Tertiary Education Sub-sectors. Major capacity building programmes, including change management, will be introduced to enhance commitment to teamwork, information dissemination and public relations. In addition, there will be a strong focus on improved planning, financial management, data collection and operational systems, which will be supported by increased use of information technology.

### 1.6.2 Decentralisation and Education Boards

Decentralisation of the education system has led to the creation of District Education Boards, High School and College Education Boards, which will manage education delivery at these levels. This Plan will be implemented largely by decentralised delivery of education services through these Education Boards using a quarterly cycle of grants disbursement and accounting procedures. These grants will be based on resource allocation criteria that will take account of the particular needs of remote rural areas. A district basket fund will be set up to facilitate the process and the whole system will be supervised and monitored by the Education Boards Services Section in the Planning and Information Directorate.

The operational structures at the district will be separated into the District Education Board (DEB) and the District Education Standards Office (DESO). The District Education Board will ensure education and education facilities are provided and that staffing and enrolment plans are in place. The District Education Standards Office will be responsible for monitoring and evaluating the performance of schools and the Education Boards themselves as per set standards. Clear guidelines have been developed for the Education Boards and it will be necessary for PTAs to be fully conversant with these guidelines to avoid misunderstandings.

With the establishment of Education Boards, the Provincial Education Office assumes a new dimension with emphasis on co-ordination of the implementation of district programmes and activities, monitoring and supervision of policy and standards, and ensuring accountability through audit procedures.

In 2003 major capacity-building programmes will be initiated, alongside deployment of qualified personnel, to ensure that planning, financial management and procurement responsibilities can be delegated successfully to provinces, districts and all education

boards. Particularly important will be the training of heads, principals and school management teams on all aspects of educational management in order to contribute to better school performance. Major sensitisation programmes will be undertaken to ensure that communities understand the importance of their role in the management, monitoring and accountability of education boards. Another area that will be improved is the communication between district offices and school communities.

### **1.6.3 Decentralisation of procurement of textbooks and learning materials**

Although the Ministry will decentralise procurement over the next three years, it recognises that institutional capacity at all levels will have to be strengthened first. Therefore, procurement of textbooks will be targeted for decentralisation first because there is already capacity at schools to identify and select their learning material needs. This process will be piloted first in two provinces during 2003-2004 before being extended to all provinces.

Education Materials Unit headed by a Principal Curriculum Specialist in the Directorate of Standards and Curriculum will be created to manage the planning tracking and monitoring of supply of education materials to schools in collaboration with the Purchasing and Supplies Unit. Basic Schools will be provided with budget ceilings, and District Education Boards, who will have purchasing authority, will compile school orders and send them to suppliers for delivery to districts. High Schools and Colleges, on the other hand, will deal direct with suppliers and have both budget ceilings and purchasing authority. In addition the National Book Policy will be revised and updated, and strategies developed with the Zambian book industry to strengthen the competitiveness and distribution capacity of publishers and booksellers, in order to reduce the costs of education materials.

## **2.7 Research and Studies**

Several strategies in this Strategic Plan will require further research and studies to be carried out, before final implementation plans can be drawn up. These will include studies on enrolment of orphans and vulnerable children (following the free Middle Basic education announcement), early childhood development, adult literacy provision, girls' education, and high school curriculum / assessment with reference to life skills. In addition, research will be initiated into cost-efficiency measures such as pupil-teacher contact hours at basic and high school level, low-cost construction, reduced textbook costs, and cost-recovery mechanisms, particularly for high schools and universities. Higher education will be targeted for analysis of its management, financing and quality in terms of graduate outputs and their suitability for the human resource needs of Zambia.

### 3 Strategic Programmes

The roles of the Ministry are as varied as the stakeholders it interacts with. In addition to providing support services to basic, high school and tertiary education, it works with the private sector, autonomous institutions and other line Ministries that deal with education and training. The mission statement below summarises how the Ministry will implement the strategic programmes that follow.

#### **Mission Statement**

The Mission of the Ministry of Education is to enable and provide an education system that will meet the needs of Zambia and its people.

This will be achieved by:

- a) Developing and co-ordinating the policy, funding, planning and delivery of quality basic, high school and teacher education, in consultation with stakeholders and in partnership with other providers;
- b) Providing efficient professional and administrative support services based on reliable information management systems;
- c) Ensuring that education infrastructure is of acceptable standards and that there are adequate and relevant teaching and learning materials;
- d) Providing and sustaining professional, qualified and motivated human resources;
- e) Monitoring and evaluating educational standards;
- f) Establishing mechanisms for the development of policy direction with autonomous institutions, particularly in the field of tertiary education and, where appropriate, the management of their funding allocation;
- g) Working with other line Ministries and government institutions in coordinating policy, strategy and implementation of educational services provided by government.

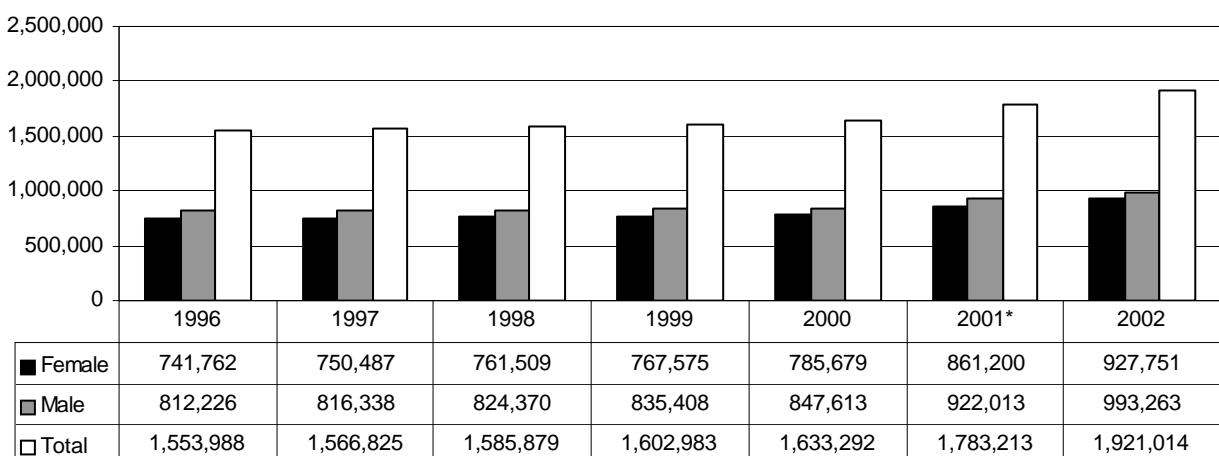
### 3.1 Basic Education

#### 2.1.1 Situational Analysis

Many gains have been achieved for lower and middle basic education through BESSIP. These include higher enrolment rates, construction and rehabilitation of more classrooms and an increase in the number of teachers. Despite these gains, the Basic Education Sub-sector is still faced with many challenges in the years ahead. The number of schools offering basic education was 6,459 of which 4,271 are government, 65 Grant Aided, 198 private and 1,149 community schools. 85.6% of the government schools are in rural areas. In 2001, roughly 1.77 million children were enrolled in grades 1 – 7. It was estimated that 30% of children in the school-going age were not enrolled, which translated into nearly 620,000 children. The problem was particularly high in the rural areas and for children aged 7 with over 55% in that age group not enrolled. There was relative gender parity in grades 1 – 7, although the figures show that it decreases in the last years of middle basic.

Community Schools have grown in number considerably from 38 in 1996 to 1,149 in 2001 and enrolment has increased from 6,600 in 1996 to over 140,000 in 2001. In addition, the Interactive Radio Initiative (IRI) is beginning to enrol more and more pupils.

**Figure 3 Enrolment Trends by for Grades 1 – 7 by Gender (1996 - 2002)**



Source: Ministry of Education - Planning Unit, EBS, ZCSS (\*includes figures from Community Schools and IRI Programme)

While school places do exist in the rural areas, the problem has been exacerbated by a lack of teachers and the poor conditions of the existing classrooms. In 2002, there were 36,257 teachers in government basic schools, while 872 taught in Grant Aided basic schools and 3,355 in Private basic schools. Over 25% of the existing classrooms were in temporal structures or in poor condition. The Ministry is faced with two main challenges in teacher education. While it is necessary to produce more teachers, it will be equally important to re-deploy existing teachers to the rural areas. In some rural areas the pupil: teacher ratio is double that of the urban centres.

The situation is even more critical for grades 8 – 9. The enrolment rates for grades 8 – 9 are approximately 190,000 of which girls represent 46% of the total. These figures include the Academic Production Units (APU). Presently only half of the pupils leaving grade 7 are

able to find school places in grade 8, while just over one-fourth leaving grade 9 are proceeding to Grade 10.

The quality of education has been compromised by various factors. The overloaded and compartmentalised curriculum, coupled with dismal pupil teacher contact time has been one factor, while the lack of sufficient educational materials has also contributed to the low quality of education. Learning achievement remains at low levels, mean scores in English and Maths in Grade 5 at 33% and 34% respectively. The HIV/AIDS pandemic has also had a devastating impact on the educational system. The loss of teachers through death and sickness has greatly reduced the pupil: teacher contact hours in the schools.

With regard to the infrastructure facilities for schools, if double shifting were limited to lower basic, and all temporary classrooms were rejected for use, at present there would be a shortfall of about 400,000 school places, which translates into 8,500 classrooms. Further, there is a backlog in the provision of teachers' houses of about 600 units. 60% of the current stock of 21,000 classrooms and 70% of the 12,000 teachers' houses needs to be rehabilitated, 20% of the classrooms and 30% of the houses have major defects.

### **2.1.2 Sub-sector Goals**

THEME	WORK PROGRAMMES	SUB-SECTOR GOAL
<b>Access/Equity</b>	<b><i>Policy and Planning</i></b> <b><i>Financial Management</i></b> <b><i>Procurement</i></b> <b><i>Infrastructure</i></b> <b><i>Distance Education</i></b>	1. Provide free basic education to all children that is responsive to girls, rural children, children with special educational needs, orphans and other vulnerable groups.
<b>Quality</b>	<b><i>Teacher Education</i></b> <b><i>Curriculum and Assessment</i></b> <b><i>Standards and Evaluation</i></b>	2. Increase learning achievement in literacy and numeracy 3. Co-ordinate the provision of early childhood education and adult literacy in collaboration with other key stakeholders
<b>Administration, Financing and Management</b>	<b><i>Policy and Planning</i></b> <b><i>Human Resource and Administration</i></b> <b><i>Institutional Development</i></b>	4. Strengthen the capacity of the District Education Boards and Schools to plan, cost, manage and monitor the delivery of education services.
<b>HIV/AIDS</b>	<b><i>Policy and Planning</i></b> <b><i>Special Issues</i></b>	5. Develop and support actions aimed at mitigating and reducing the impact of HIV/AIDS on Basic Schools.

*N.B. The specific objectives for each sub-sector can be found in the National Implementation Framework Summary in the Appendices*

### **2.1.3 Strategic Summary**

#### **2.1.3.1 Access/Equity**

The main targets by 2007 will be improved enrolment rates, progression and completion rates matched by improved learning achievement levels from Grades 1-9 and moving towards the goal of Universal Basic Education. Specifically, the Ministry will attempt to achieve gross enrolment rates of 110% and completion rates of 86% for grades 1 – 7, whereas for Grades 8 – 9 gross enrolments rate target of 62% and completion rate of 59% have been set. The target for progression rate to Grade 8 is 70% by 2007, particularly for girls

To achieve these targets, the Ministry will allocate sufficient funds in terms of school grants to all basic government schools and recognised community schools to support the free basic education (Grades 1-7) policy. Special priority will be given to remote rural schools in terms of resource allocation and construction or rehabilitation of classrooms and teachers' houses as part of the overall national infrastructure programme. The Ministry will also work with community schools, interactive radio centres and other alternative modes to provide specific support to out-of-school children, including bursaries and weekly boarding facilities.

The current low progression rate to Grade 8 will be improved through gradual expansion of all basic schools to Grade 9, increased government funding, additional bursaries, community participation, and more efficient use of teachers and classroom space, including reduction and eventual elimination of double shifting. The Ministry will work towards reducing and abolishing user fees for Grades 8 and 9 over the next five years through further increases in budgetary allocations.

The issue of girls dropping out of school between Grades 5-7 and Grades 8-9 will be addressed by a vigorous grass-roots campaign with traditional leaders, parents, and civil society groups, supported by co-operating partners, to change attitudes and develop incentives for keeping girls in school.

The ministry aims at achieving the net admission rate of 100% by the year 2007 from 94% in 2002 with a gross enrolment target of 110% from 101%. The Ministry will further ensure that the completion rate at Grade 7 rises from 65% in 2002 to 86% in 2007. This would be achieved through a rigorous process of reducing repetition rates from 7% in 2002 to 4% in 2007. Further the Ministry is putting various interventions in place to ensure that pupils who enrol in school remain in school until the end of the cycle.

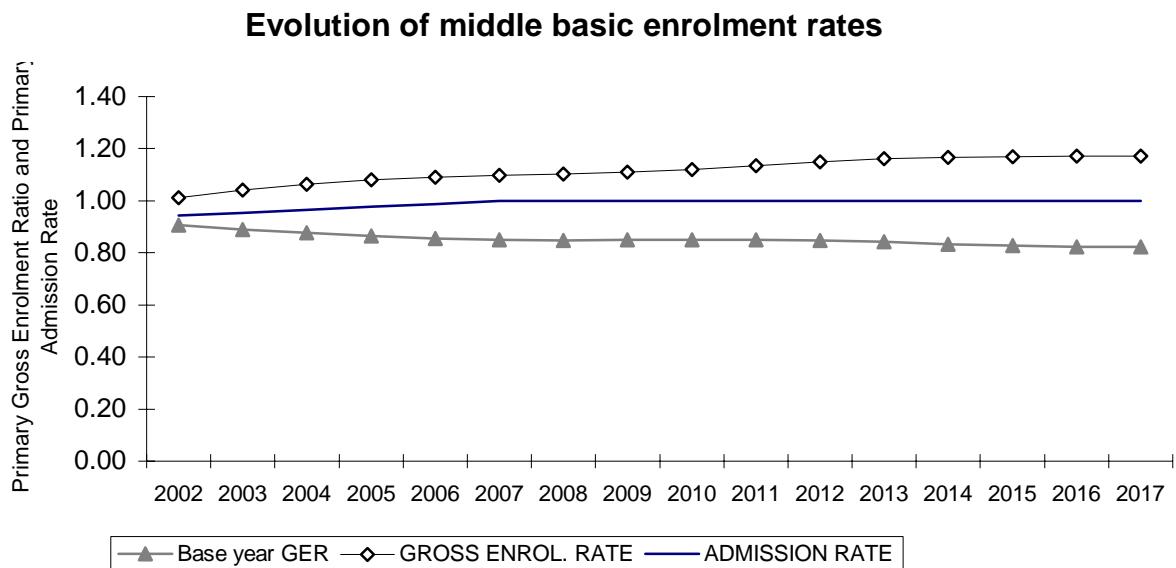
**Table 1 Enrolment Targets**

**Table P2: Target Access Indicators**

	<b>Base</b>	<b>Estimate</b>		<b>Projected</b>			<b>2007</b>
	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	
<b>Middle Basic (1-7)</b>							
Admission rate	95%	94%	95%	96%	98%	99%	100%
Gross enrolment rate	97%	101%	104%	106%	108%	109%	110%
Completion rate	64%	65%	69%	73%	76%	80%	86%
Repetition rates	6%	7%	6%	5%	5%	4%	4%
<b>Upper Basic (8-9)</b>							
Transition rates	53%	57%	59%	62%	64%	67%	70%
Gross enrolment rate	42%	46%	49%	52%	55%	59%	62%
Completion rate	41%	45%	47%	50%	53%	56%	59%
Repetition rates	6%	7%	7%	7%	6%	6%	6%

The Ministry of education sector plan though covering a period of 5 years from 2003 to 2007 shows the evolution for basic education enrolment of up to 2015. This is to reflect the longer term goal of the Ministry of Education as stated in *Educating Our Future*.

**Figure 4 Evolution of Middle Basic Enrolment rates**



### 2.1.3.2 Teacher Requirements

In 2002 there were a total of 37,933 teachers for Grades 1 – 7, of which 31,900 were in government schools, and 6,033 in private schools (including community schools). In 2003, it has been projected that there will be an increase of 6.5 percent personnel, and thereafter the Ministry will concentrate on replacing the teachers due to natural attrition. Additional efforts will be made to streamline the distribution of teachers to ensure maximum utilisation. While aiming at the elimination of the undesirable practicing of double shifting especially for lower Grades (1 to 4), in the long term, the Ministry will in the interim endeavour to sufficiently utilise the teachers in the system by maintaining double shifting for lower Grades in the interim period up to 2007 with the eventual aim of eliminating practice by 2015. If the current pupil: teacher ratio of 36.2 : 1 is maintained, and double shifting eliminated, the Ministry will need an addition of about 25,000 teachers by 2003.

There will also be major efforts to optimise the utilisation of classroom space. This will involve the raising of the pupil teacher ratio from 52 in 2002 to 64 in 2007. Effectively, the 43.3 percent of teachers who will be shifting, and receiving a double class allowance for overload, will take the place of about 16,000 teachers who should have otherwise been in the system if there would be no double shifting. Further, efforts will be made to increase the class size from 36 to 45. Taking into account the double shifting factor reduces the pupil:teacher ratio from 45. For Grades 8 to 9, efforts will be focussed on increasing enrolments and class size. This will result in the pupil: teacher ratios rising from 21 to 36 while class size will rise from 40 to 45. It is most likely that the inherent disparities between urban and rural areas will still persist with small classes and low teacher absorption rate in rural and big class sizes in urban areas with multiple shifts. The Ministry affirms its desire to maintain reasonably smaller classes sizes and has an ambitious programme of eliminating the double shifting vice completely by 2015.

**Table 2 Teacher Requirements**

	<i>Estimate</i>		<i>Projected</i>				
	<i>Base</i> 2001	<i>te</i> 2002	2003	2004	2005	2006	2007
<b>Middle Basic (1-7)</b>	<b>35,603</b>	<b>37,933</b>	<b>38,498</b>	<b>38,809</b>	<b>38,921</b>	<b>38,745</b>	<b>38,414</b>
Public teacher needs	30,769	31,900	32,312	32,446	32,347	32,093	31,690
Private teacher needs	4,834	6,033	6,186	6,363	6,574	6,651	6,724
Annual Needs	4,466	2,841	2,621	2,440	2,159	1,994	4,816
<b>Upper Basic (8-9)</b>	<b>8,575</b>	<b>9,332</b>	<b>9,366</b>	<b>9,387</b>	<b>9,436</b>	<b>9,473</b>	<b>9,553</b>
Public teacher needs	7,382	7,672	7,573	7,452	7,335	7,210	7,110
Private teacher needs	1,193	1,660	1,793	1,935	2,101	2,263	2,443
Annual Needs	1,272	594	584	611	603	648	1,684

Note: (1) The Annual teachers needs are calculated by estimating total teacher needs for the following year. This means that the annual teacher needs are reported up to 2006 and not 2007.

### **Comparisons of Annual Teacher Needs with the Projected outputs**

The accelerated teacher development programme's success in meeting the country teacher needs will start yielding dividends in 2003 as there will be technically more teachers supplied to outstrip demand. While the estimated teacher total requirements for 2003 stands at 3,732, the estimated college output for the same years stands at 5,257. This implies that there will be 1,525 more teachers in the system than needed. Though this might appear to be the case, the situation on the ground is different because of four main reasons: a) the proportion of teachers currently pursuing further studies and effectively not teaching; b) the number of teachers who are not able to teach because of health problems; c) the number of new teachers who do not take up appointments upon being posted; and, d) the inherent problem of teacher distribution as it is very difficult to transfer teachers from overstuffed urban areas to understaffed rural areas.

**Table 3 Comparing Annual Teacher Needs with Projected Teacher Output**

	<i>Base</i> 2001	<i>Estimate</i> 2002	<i>Projected</i>			
			2003	2004	2005	2006
Total Annual Teacher Needs	<u>6,866</u>	<u>4,109</u>	<u>3,732</u>	<u>3,609</u>	<u>3,232</u>	<u>3,125</u>
<i>Of Which</i>						
<i>Middle Basic</i>	4,466	2,841	2,621	2,440	2,159	1,994
<i>Upper Basic</i>	1,272	594	584	611	603	648
<i>High School</i>	1,128	674	528	557	469	482
Teacher Training Programme Output*	<u>3,692</u>	<u>4,095</u>	<u>5,257</u>	<u>5,257</u>	<u>5,257</u>	<u>5,257</u>
Gap (Teacher Needs- Output)	3,174	14	(1,525)	(1,649)	(2,026)	(2,132)

#### Notes

\*Teacher Training Programme output for 2001 and 2002 is lower than in subsequent years because of the changes in the structure of the Middle Basic teacher training course:

ZATEC students were only fully enrolled in 2002. Output from 2003 onwards is estimated as 45% of total enrolment in teacher programmes in the previous year.

The figures for teacher output in 2001 and 2002 in the above table should be regarded with caution. The change in the Middle Basic teacher training system between 1998 and 2002 and the poor records on private students have contributed to problems in obtaining reliable estimates.

### **Capital Expenditure requirements**

The Ministry will continue to allocate a significant proportion of its capital budget to basic education for both new construction and rehabilitation. Slightly over half of the capital budgets during the planning period will be allocated to the lower and middle basic levels while upper basic will get 8%. It is further estimated that 28% will go to high schools, 2% teacher education, 2% continuing education, and 6% to University education respectively.

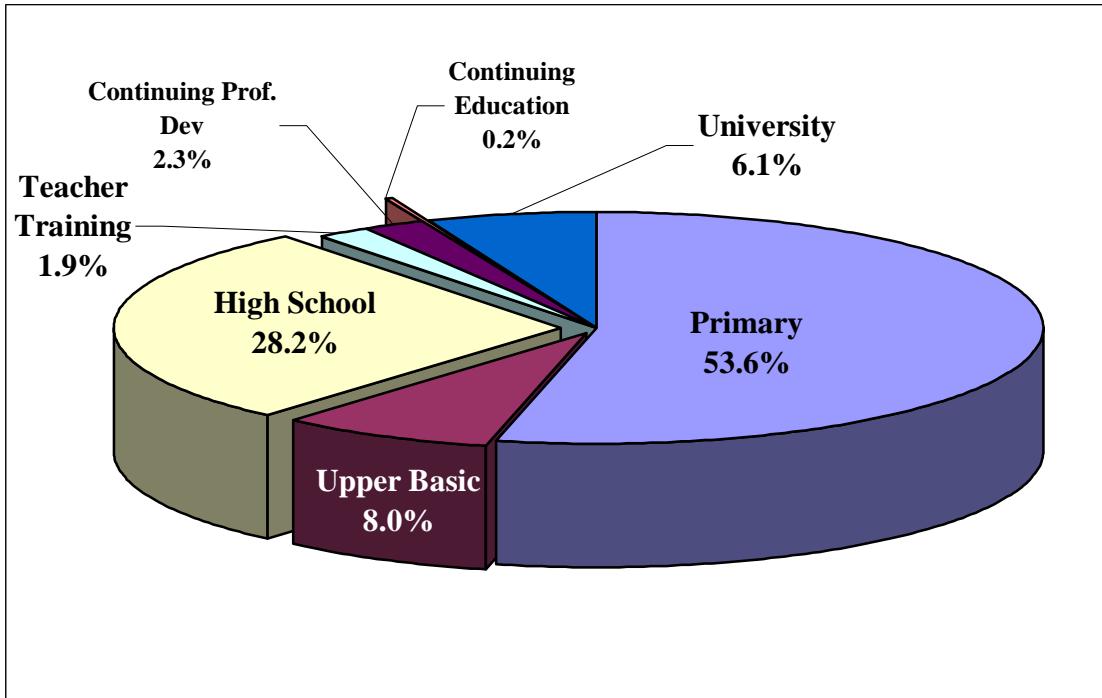
The average annual expenditure for lower and middle basic (Middle Basic) in 2001 constant Kwacha prices is estimated to be 143,110 million while that for Upper Basic is estimated to be 20,692. The average expenditure for high school capital projects is estimated for 75,325 million 2001 constant Kwacha prices, teacher training 5,177 million, Continuing education 6,105, and University 16,265 million.<sup>1</sup>

**Table 4 Capital Expenditure Projections (Million Kwacha, 2001 constant Prices)**

Sub-Sector	<i>Actual 2001</i>	share	<i>Estimate 2002</i>	share	<i>Projected 2003-2007</i>	share	<i>Annual Average</i>
							<i>2003-2007</i>
<b>2Middle Basic</b>	21,366	30%	57,286	43%	715,551	54%	143,110
New Construction	18,366		53,651		607,044		
	3,000		3,635		108,506		
<b>3Upper Basic</b>	36,777	51%	24,269	18%	103,458	8%	20,692
New Construction	36,777		24,269		87,769		
	0		0		15,688		
<b>4High School</b>	5,425	8%	29,008	22%	376,623	28%	75,325
New Construction	0		25,049		208,836		
	5,425		3,959		167,787		
<b>5Teacher Training (pre-service)</b>	8,488	12%	14,405	11%	25,884	2%	5,177
New Construction	0		0		21,650		
	8,488		14,405		4,234		
<b>6Continuing Professional Development</b>	0	0%	0	2%	30,526	2%	6,105
<b>7University</b>	0	0	6,553	5%	81,324	6%	16,265
<b>8Other* (Continuing Education)</b>	0	0%	0	0%	2,287	0%	457
	<b>72,056</b>		<b>133,999</b>		<b>1,335,652</b>		<b>267,130</b>

The estimated total amount of capital investments amount to 1,335,652 Zambian Kwachas in 2001 constant prices, which is equivalent to 369,884,243 US Dollars.

<sup>1</sup> The analysis of capital expenditure has been presented for all the sub-sectors in this section and will not appear in the other specific sub-sectors sections

**Figure 5 Capital Allocation by Sub-sector (2003 - 2007)**

Although the Ministry of Education sector plan is outlined into four distinct sections with well articulated intentions for each sub-sector based on agreed priority options with clearly projected costs, the analysis of capital investments is presented for all the sectors in the first sub-sector dealing with basic education as outlined.

#### *2.1.3.2 Quality and Efficiency*

The greatest challenge, however, in the next 5 years is to improve the overall quality of basic education in terms of improved learning outcomes. Pupils' performance will be monitored through regular National Assessment at middle basic level, the competency-based tests being introduced, and also through the Grade 7 and Grade 9 summative evaluations. In addition to remaining a selection tool for the time being, the Grade 7 examination will be used as an assessment tool to inform the Ministry of the levels of learning achievement at the middle basic level. The Grade 9 examinations will be restructured. In addition, completion rates at the end of Grade 7 and Grade 9 will provide a quality as well as an efficiency indicator of the Ministry. The Ministry has also since 1999 been conducting a National Assessment Survey of Learning Achievement in the fifth Grade.

The main objective of the National Assessment survey was to inform the Ministry of the Learning Achievement Levels and how they were changing overtime in the context of various inputs and contextual issues. Results between the two surveys indicate a marginal positive change in both English Reading and Mathematics. Absolute mean performance in English reading changed from 33.20 in 1999 to 33.43 in 2002 while for Mathematics, the change was from 35.30 to 37.74. Further, the proportion of pupils getting above the defined performance thresholds also improved appreciably. Proportion of pupils getting above the defined desirable level of performance also appreciably improved such that for every 3 pupils who will have achieved the desirable level of performance in 1999, there would be a corresponding 5 pupils in 2001 for the same level for Reading in English. The proportion of pupils getting the minimum level of performance rose from 23.1 to 29.3. The proportion of

pupils getting the minimum level of performance in Mathematics rose from 26.5% to 28.7% while those getting the desirable level of performance increased from 3.8% to 6.1%.

In terms of inputs, the Basic Education Curriculum Framework will be implemented through improved, revised syllabuses, teachers' guides, learning materials, comprehensive in-service training of teachers and regular monitoring by standards officers. Special attention will be paid to life skills and cross-cutting issues such as school health and nutrition, HIV/AIDS and environmental education. Another key priority is the extension of the Curriculum Framework to Grade 8 and 9 subjects, and an increase in contact hours particularly for Grades 1 – 4. There will be improved materials provision to pupils and teachers and a decentralised procurement and distribution system for textbooks is to be introduced by 2004 to help reach the target pupil: book ratio of 2:1.

Another key factor will be greater efficiency in the deployment and utilisation of teachers and classroom space, including gradual removal of triple and double shifting particularly in urban schools. There will be increased incentives for teachers to work in rural and remote areas, particularly female teachers, in terms of fast-tracked promotion and upgrading opportunities in addition to the current hardship allowances. The main target for the increase in teachers for grades 1 – 7 with a pupil: teacher ratio of 45:1, with special emphasis on reducing the disparities between urban and rural schools.

School health and nutrition programmes that have been piloted under BESSIP will also be extended to those districts and zones where malnutrition and ill-health have significant impact on pupil attendance and pupil performance.

**Table 5 Projected recurrent Unit Expenditure by sub sector and cost item**

Middle Basic (1-7)	Projected										Growth: 2001-07	(Current prices, K)
	Base Estimate 2001	2002	2003	2004	2005	2006	2007	2012	2017	Middle Basic 2003		
Teachers' salaries	85,556	93,305	91,040	88,830	86,673	84,569	82,516	113,871	154,292	-4%	118,334	
Non-teacher salaries	1,320	1,320	1,334	1,347	1,361	1,375	1,389	18,197	19,604	5%	1,733	
Learning supplies	7,657	7,657	26,596	26,596	26,596	26,596	26,596	26,596	26,596	247%	34,570	
Bursary	787	1,552	1,000	1,000	1,000	1,000	1,000	1,000	1,000	27%	1,300	
School operating expenses	11,706	18,376	18,376	18,376	18,376	18,376	18,376	18,376	18,376	57%	23,885	
Special Programmes	11,308	14,710	14,333	15,198	17,982	22,064	28,834	46,098	62,591	155%	18,631	
Standards Visits	415	441	740	727	715	704	694	824	975	67%	962	
Assessment	1,261	1,240	1,233	1,239	1,245	1,274	1,337	1,225	1,534	6%	1,602	
	120,009	138,600	154,652	153,314	153,948	155,957	160,741	226,188	284,969	34%	201,017	

### 2.1.3.3 Stakeholder Partnerships

The willingness among parents, NGOs and religious organisations to participate more actively in education will continue to be encouraged, especially in rehabilitation and

construction of schools, and introduction of programmes that address HIV/AIDS issues. The need to target orphans requires special initiatives such as Community Schools and Interactive Radio Centres, but other line Ministries, religious groups and civil society organisations will be encouraged to play their part.

The numbers of special needs pupils will be increased through provision of trained teachers and special facilities and learning materials in collaboration with international and local agencies, the private sector, service clubs and similar welfare groups.

Private companies will be encouraged to invest in educational facilities for the children of their workforces in return for support from the Ministry in terms of teachers, grants and learning materials. Stronger linkages with private schools will be developed, and regulatory frameworks and licensing criteria reviewed.

#### *2.1.3.4 Early Childhood Care Education and Development*

This is a key new initiative to improve readiness and performance of pupils entering Grade 1, particularly in rural areas. In the next 5 years, the Ministry of Education will collaborate with Ministry of Local Government through district councils, and with local communities, NGOs, religious organisations and the private sector to develop pre-schools in rural basic schools. A task force comprising the key stakeholders will be set up in 2003 to develop detailed targets, costings and activities in order to implement the programme from 2004 onwards.

#### *2.1.3.5 Adult Literacy*

Since parent's own literacy plays a significant role on pupils' enrolment, attendance and performance, the Ministry will also revive adult literacy classes, based on demand, through the Directorate of Distance Education in collaboration with the Ministry of Community Development and Social Services, UNZA, NGOs and religious organisations. A unit will be set up to co-ordinate training and compensation of adult literacy tutors along with development, procurement and provision of appropriate literacy materials.

#### *2.1.3.6 Administration, Financing and Management*

District Education Boards will manage basic schools in each district. However, each school will be expected to develop plans and a budget for the year, forward these to the Board, and account for monies received and spent on time. The Board will encourage better school management and leadership, increase teacher retention and motivation, and address teacher absenteeism and indiscipline directly.

#### *2.1.3.7 HIV/AIDS*

Schools will play an active role in developing and implementing activities targeting the prevention or mitigation of HIV/AIDS, including peer counselling and protection mechanisms for teachers and students. Information and awareness raising will be enhanced through distribution of newsletters, magazines and development of HIV/AIDS issues in the curriculum and related materials. Replacements will be provided for teachers and administrators who are absent through sickness or have died, through re-employment of retired personnel and creation of a pool of relief or 'supply teachers' for quick redeployment.

#### *2.1.3.8 Ongoing Programmes - BESSIP*

The key areas that have been addressed through the implementation of BESSIP will continue to be the overall priority of the Strategic Plan. These include school infrastructure, educational materials, teacher education, curriculum development and capacity building. Crosscutting interventions such as HIV/AIDS Prevention and Impact Management, Equity and Gender, and School Health and Nutrition will be fully integrated into Ministry line functions under the Directorate of Planning and Information and expanded.

#### **2.1.4 Cost Projections for Basic Education**

The cost projections were based on the 2001 constant prices and projected up to 2007 in Zambian Kwacha. Costings were projected both in current and constant prices taking into account the GDP deflator and inflation. The table presented below is in current prices. In the last section of this chapter another table on financing projections based on constant prices has also been presented.

**Table 6 Costing Projections in Constant Kwacha at 2001 Prices**

<b>Middle Basic (1-7)</b>	<b>Base</b>	<i>Estimat</i>		<i>Project ed</i>						<i>Growth 2001-07</i>	<b>Middle Basic 2003</b>	
		<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2012</b>	<b>2017</b>		
<b>Teachers' salaries</b>	85,556	93,305	91,040	88,830	86,673	84,569	82,516	113,871	154,292	-4%	118,334	
<b>Non-teacher salaries</b>	1,320	1,320	1,334	1,347	1,361	1,375	1,389	18,197	19,604	5%	1,733	
<b>Learning supplies</b>	7,657	7,657	26,596	26,596	26,596	26,596	26,596	26,596	26,596	247%	34,570	
<b>Bursary School operating expenses</b>	787	1,552	1,000	1,000	1,000	1,000	1,000	1,000	1,000	27%	1,300	
<b>11,706</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>18,376</b>	<b>57%</b>	<b>23,885</b>	
<b>Special Programmes</b>	11,308	14,710	14,333	15,198	17,982	22,064	28,834	46,098	62,591	155%	18,631	
<b>Standards Visits</b>	415	441	740	727	715	704	694	824	975	67%	962	
<b>Assessment</b>	1,261	1,240	1,233	1,239	1,245	1,274	1,337	1,225	1,534	6%	1,602	
	<b>120,009</b>	<b>138,600</b>	<b>154,652</b>	<b>153,314</b>	<b>153,948</b>	<b>155,957</b>	<b>160,741</b>	<b>226,188</b>	<b>284,969</b>	<b>34%</b>	<b>201,017</b>	
<b>Upper Basic (8-9)</b>		<i>Projected</i>										<i>Upper Basic 2003</i>
		<i>Actual Estimate</i>	<i>2001</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>	<i>2012</i>	<i>2017</i>	
<b>Teachers' salaries</b>	214,199	243,967	226,744	210,737	195,860	182,033	169,182	190,737	220,892	-21%	294,723	
<b>Non-teacher salaries</b>	12,564	11,396	11,385	10,974	10,556	10,133	9,877	18,001	15,757	-21%	14,798	
<b>Learning supplies</b>	5,470	5,697	17,100	17,100	17,100	17,100	17,100	17,100	17,100	213%	22,227	
<b>Bursary</b>	4,972	7,936	9,456	11,268	13,427	16,000	24,000	24,000			10,315	
<b>Boarding School operating expenses</b>	9,112	7,572	6,483	5,704	5,002	4,448	4,028	1,352	-	-56%	8,426	
<b>11,108</b>	<b>16,134</b>	<b>16,239</b>	<b>16,344</b>	<b>16,449</b>	<b>16,554</b>	<b>16,624</b>	<b>17,500</b>	<b>18,376</b>	<b>50%</b>	<b>21,107</b>		
<b>Special Programmes</b>	7,088	7,510	9,468	11,512	15,660	17,697	20,245	32,814	49,361	186%	12,306	
<b>Standards Visits</b>	1,779	2,190	2,853	2,664	2,491	2,331	2,214	1,981	1,762	24%	3,708	
<b>Assessment</b>	27,939	28,460	28,297	28,050	27,769	27,631	27,231	27,270	27,668	-3%	36,781	
	<b>289,260</b>	<b>327,900</b>	<b>326,504</b>	<b>312,541</b>	<b>302,156</b>	<b>291,354</b>	<b>282,500</b>	<b>330,753</b>	<b>374,916</b>	<b>-2%</b>	<b>424,393</b>	

The Ministry will provide 585,000 school places (equivalent to around 10,000 classrooms) to address the current shortfall of school places as well as to cater for the increasing enrolment. During the costing, double shifting has been limited to grades 1-4, Classroom-pupil ratio has been assumed at 1:45 while one multi-functional oversized classroom for upper basic per single stream. The Ministry will also provide 1,650 teachers' houses mainly in rural areas. Specifically, 4 teachers' houses per single streamed Upper Basic School (which is roughly 1.5 more than the current allocation norm) will be constructed. For urban areas: 0.75 teacher's house per single streamed Upper Basic school (since most urban schools are multi-stream, this ratio guarantees that each urban school can be provided with at least one teacher house for security). Additionally, the Ministry will carry out major rehabilitation works of 4,500 classrooms and 3,500 teachers' houses, and repair minor defects for 8,000 classrooms and 5,000 teachers' houses.

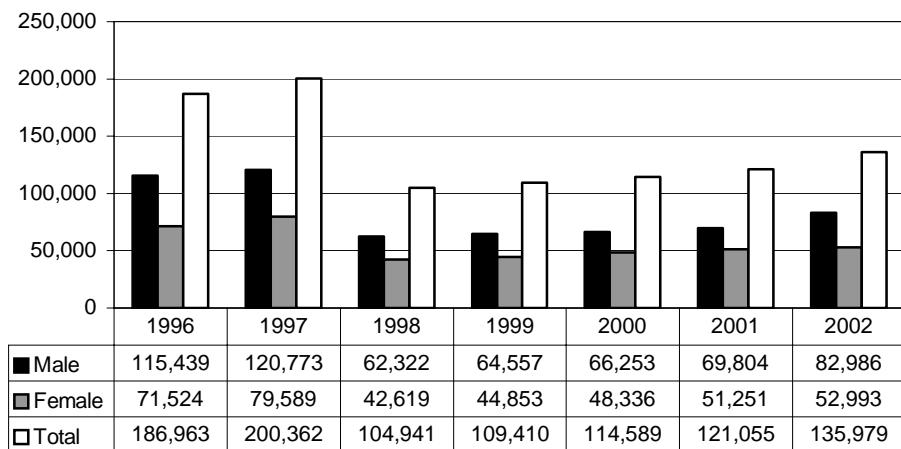
## 3.2 High School Education

### 2.2.1 Situational Analysis

The High School Sub-sector has been neglected in the last few years due to the poor economic situation in the country and the increased allocation of resources to the basic sub-sector. The total number of schools in 2001 was 256 of which 208 are government, 33 are grant-aided and 15 are private. The overwhelming majority still have a Grade 8-12 structure with only two schools catering for only grades 10 – 12.

The enrolment for grades 10 – 12 in 2001 was 121,000 pupils, of which girls made up 42% of the total. These figures include the pupils enrolled in the Academic Production Units (APU). The APUs were established in 1996 to offer more places for pupils who, otherwise, would not have had the opportunity to attend the regular classes and cater for grades 8 – 12. The classes are taught in the afternoons and the pupils pay a tuition fee. By 1997 the enrolment rates had increased greatly and the system was becoming overwhelmed, which had serious effects on the quality. In 1998 the Ministry decreed that enrolment for APUs should be limited to no more than one-third of the total enrolment for the regular classes. For this reason, enrolment dropped after 1997.

**Figure 3 Enrolment Trends for Grade 10 – 12 by Gender including APU (1996 – 2001)**



Source: Ministry of Education, Planning Unit

There are presently not enough school places for pupils with only 25.9% of children progressing from basic to high schools. Girls have a slightly higher rate of progression than boys. However, due to the accommodation of Grades 8 and 9 at basic school level, there is currently a nationwide overprovision of high school places of around 50,000, equivalent to 1,100 classrooms. Additionally, There is a backlog in the provision of teachers' houses of around 400 units. 70% of the existing 3,300 classrooms and 70% of the 3,200 teachers' houses needs to be rehabilitated, 15% of the classrooms and 30% of the houses have major defects.

**Table 6 Construction and Rehabilitation Expenditures for 2001**

	<b>Total cost of new construction in USD</b>	<b>Total cost of new construction in ZMK at constant 2001 prices</b>	<b>Total cost of rehabilitation in USD</b>	<b>Total cost of rehabilitation in ZMK at constant 2001 prices</b>
		3,528		3,528
<b>Lower and Middle Basic</b>				
new construction	172,057,054	607,044,297,741		
rehabilitation			30,754,370	108,506,246,838
<b>Upper Basic</b>				
new construction	24,876,840	87,769,398,089		
rehabilitation			4,446,615	15,688,357,521

The total number of teachers in secondary and high schools was 7,588 in 2001. This figure also includes those who are teaching in grades 8 and 9. Female teachers represent 27.7% of the total and females head only 18.5% of the high schools. The pupil:teacher ratio for grades 10 – 12 was 19:1. There is a particular lack of teachers in subjects like mathematics and sciences.

The condition of many of the existing classrooms is deplorable and laboratories and other practical study rooms have fallen into disrepair. Almost no investment has been made in the last years to counter the situation. The condition of the classrooms and the curriculum, which is considered by many to be largely irrelevant, have greatly contributed to the low level of quality in the high schools.

The low quality of education can also be observed from the relatively low numbers of pupils receiving the School Certificate upon completion of their studies. In 2001, 65.7% of the pupils received their certificates, with far higher rates in private and grant-aided schools. Girls have a significantly lower rate with 59.8% receiving school certificates.

Around 5,000 students are being trained at 13 vocational training centres under the present Continuing Education Department. 10 of these centres have been rehabilitated and extended recently. Less than 20% of the 160 vocational instructors are provided with staff houses. There is a backlog in the provision of instructors' houses of around 50 units.

## 2.2.2 Sub-sector Goals

THEME	WORK PROGRAMMES	SUB-SECTOR GOAL
<b>Access/Equity</b>	<b>Policy and Planning</b> <b>Financial Management</b> <b>Procurement</b> <b>Infrastructure</b> <b>Distance Education</b>	1. Expand access and retention especially for girls, rural children, children with special educational needs, orphans and other vulnerable groups
<b>Quality</b>	<b>Teacher Education</b> <b>Curriculum and Assessment</b> <b>Standards and Evaluation</b>	2. Improve the national performance in the School Certificate examination. 3. Provide a relevant and diversified curriculum, which develops appropriate skills and knowledge for formal/non-formal sector employment.
<b>Administration, Financing and Management</b>	<b>Policy and Planning</b> <b>Human Resource and Administration</b> <b>Institutional Development</b>	4. Strengthen the capacity of the High School Education Boards to plan, cost, manage and monitor the delivery of education services.
<b>HIV/AIDS</b>	<b>Policy and Planning</b> <b>Special Issues</b>	5. Develop and support actions aimed at mitigating and reducing the impact of HIV/AIDS on High Schools.

N.B. The specific objectives for each sub-sector can be found in the National Implementation Framework Summary in the Appendices

## 2.2.3 Strategic Summary

### 2.2.3.1 Access/Equity

Since 1999 the government and its co-operating partners have been investing in the middle basic<sup>2</sup> education level in a quite significant way. The upper basic education level benefited somewhat from investments in the middle basic education level as the resources in schools running Grades 1 to 9 are mutually shared. However, the high school education level, previously called senior secondary, has not seen much investment since the late 1980s. Equally the Upper Basic or Junior Secondary level that was being run from secondary schools was not benefiting.

While access and equity are important issues considering the low progression and enrolment rates, the initial focus will be on improving the quality and relevance of the system. However, the Ministry intends to raise transition rates from Grades 9 to 10 from 46% in 2002 to 50% by 2007 leading to an increase in enrolments from 18% to 28%. On the other hand, completion rates are expected to rise from 19% in 2002 to 26% by 2007.

To achieve this, 18,500 additional school places (equivalent to 440 classrooms) will be created to cater for the increased enrolments. The full boarding places will be maintained at

<sup>2</sup> A school referred to as Middle Basic is analogous to Primary Education which runs from Grades 1 to 7.

the 2001 number (32,000 approximately) while the Ministry will also create 16,000 places for weekly boarding in rural high schools.

Additionally, 1,000 teachers' houses will be built following a ration of 1 teacher's house per 50 students (or 10 teachers' houses per standard 504 capacity high school). Further new school places will be planned close to population centres to permit part of the teaching force to rent accommodation. Major rehabilitations will also take place for 500 classrooms, 900 teachers' houses, and repair of minor defects for 1,600 classrooms and 1,400 teachers' houses. During the period 2003 – 2007, 50 instructors houses will be constructed.

Since cost-sharing remains a necessity at high schools, the Ministry will introduce more cost-efficient measures for increasing access for girls, rural children, the poor and vulnerable. The increase in Full Basic Schools offering grades 1 - 9 will free up more space for expansion of enrolment in existing high schools. Teachers will be utilised more efficiently in terms of maximising their class contact time, and single shifting introduced where possible. Research into cheaper ways of construction and rehabilitation of school buildings will also be carried out. Efforts will also be made to reduce the cost of textbooks and learning materials.

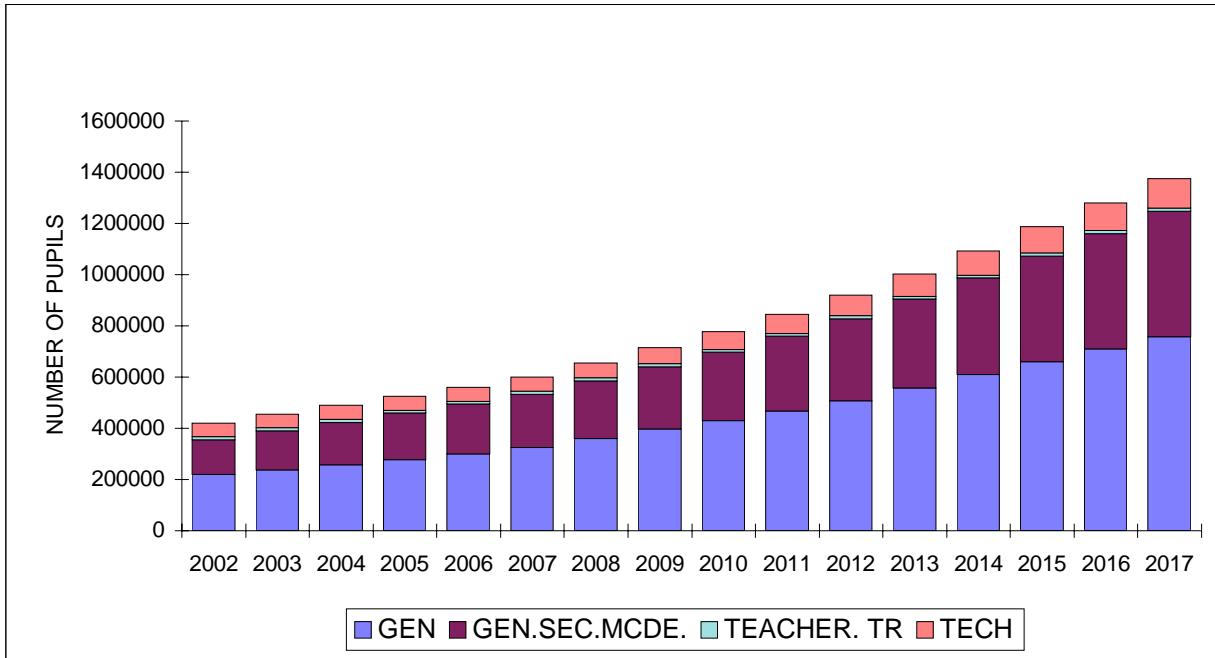
Apart from increasing bursary provision and providing a percentage of places for vulnerable groups in rural boarding schools, the Ministry will expect Education Boards to consider options such as raising funds to provide places for poor pupils, sensitising leaders and communities on the importance of girls' education, developing single sex classes, and minimising or abolishing fees for open learning centres. Boarding is expensive, and where possible the Ministry will seek to open more day High Schools in rural and semi-urban areas to increase places and reduce costs for pupils in the rural areas. The upgrading of existing appropriate basic schools to high schools will be one way of carrying out this process.

The Academic Production Unit system will be continued to allow those that can afford the additional fees to access high school education, but the guidelines will be more strictly administered through the Directorate of Distance Education. Open and distance learning will remain an important option in the next five years for out-of-school pupils and adults to complete their School Certificate through evening classes.

To increase access, many of the government high schools will need major rehabilitation programmes particularly in terms of classrooms, practical subject rooms, and improvement of water and sanitation facilities. The provision of boreholes, solar power, and pit latrines will be increased.

**Table 7 Enrolment Related Targets**

<b>High School (10-12)</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
Transition rates	44%	46%	46%	47%	48%	49%	50%
Gross enrolment rate	18%	20%	22%	24%	26%	27%	28%
Completion rate	18%	19%	22%	22%	24%	25%	26%
Repetition rates	1%	1%	1%	1%	1%	1%	1%

**Figure 6 Secondary School enrolment Projections**

### 2.2.3.2 Quality and Efficiency

The quality of high school education will ultimately be assessed by pupils' performance in the School Certificate examination at end of Grade 12. The target is to achieve an average of 72% by 2007 from the current 66%. However, learning outcomes can also be monitored by continuous assessment and by tracking surveys to determine where high school graduates have gone after Grade 12. As part of future curriculum reform, all these assessment procedures will be revised and up-dated.

In 2003, a major review of the high school education sector will take place with emphasis on curriculum reform and stronger linkages between life skills at basic education level, vocational centres under Distance Education and skills training centres under TEVETA, higher education and the world of work. A framework of competencies will be developed that dovetail into the different levels and courses offered across the different institutions. Specific areas such as design and technology, business studies and information technology will be given particular prominence in this respect. All high schools will need to develop pre-vocational skills and competencies alongside core subjects, but the range and depth of syllabi will depend on the curriculum review.

In addition, psychosocial life skills such as assertiveness, gender equality, human rights and governance will need to be included along with cross-cutting issues such as HIV/AIDS, nutrition and environmental education. Once the new curriculum is developed, it will require introduction into the teacher education curriculum, and in-service training programmes across the country. The curriculum will make new demands on teachers in terms of changes in teaching style especially with life skills, and special attention will have to be paid to ethics and abuse in schools. Regular support and monitoring by standards officers and in-service providers will be necessary.

Teacher provision across the country will be improved, based on a comprehensive subject needs and human resource analysis. Teachers will also be utilised more efficiently in terms of maximising their class contact time in each subject area. The target will be to raise the pupil:teacher ratio from 19:1 in 2002 to 28:1 by 2007. While the Diploma courses will be

retained as they still supply the bulk of high school teachers, there are plans to upgrade Nkrumah Teachers' College to a University College to increase the supply of graduate teachers. In addition, expansion of distance education provision, like the Middle Basic distance diploma scheme, would enable diploma holders to acquire degrees while remaining in the classroom. The retention of degree and diploma teachers will need to be increased by a package of incentives such as review of salary scales, better housing, access to loans, staff development opportunities, and hardship allowances.

**Table 8 Teacher requirements**

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>
High School (10-12)	5,243	6,056	6,366	6,512	6,678	6,747	6,825
Public teacher needs	4,085	4,578	4,699	4,682	4,668	4,575	4,481
Private teacher needs	1,158	1,478	1,667	1,830	2,011	2,172	2,343
Additional Annual Needs	1,128	674	528	557	469	482	

Note: (1) 6% annual attrition is assumed

(2) The additional annual teacher needs are calculated by estimating total teacher needs for the following year and subtracting this from the existing teacher stock allowing for attrition. This means that annual needs are reported up to 2006 not 2007.

The Ministry will address the lack of educational materials in High Schools. Through decentralised procurement, the Boards will become responsible for provision of learning/teaching materials (including library books and textbooks), equipment, machines and specialised apparatus. Radio programmes and other media under ICT, particularly for sciences, practical subjects and life skills, will supplement these.

**Table 9 Teaching and Learning Material (TLM) Requirements**

Teaching materials	Unit cost	Quantity	Total cost per teacher	Total cost per pupil (@ PTR 50:1)
	(US\$)	per teacher(US\$)	(K)	(US\$)
Chalk (box)	1.0	9	9	32,499
Notebook (hard)	3.0	6	18	64,998
Exercise books	0.2	20	3.56	12,855
Chart paper(ream)	4.8	1	4.75	17,152
Felt pens (12)	5.5	1	5.5	19,861
Duster	1.0	1	1	3,611
			42	150,976
<b>Total Cost Per Pupil for TLM</b>				<b>0.8</b>
				<b>21,427</b>

### 2.2.3.3 Distance Education

There will be a complete overhaul of open and distance-learning provision at this level, including provision of better tuition, improved learning materials, and streamlined management and co-ordination. The National Correspondence College will be revamped to improve the overall quality of delivery, and increased use made of information and communications technology, particularly radio, to enhance learning.

### 2.2.3.4 Stakeholder Partnerships

Many high schools, especially grant-aided institutions, have already demonstrated that through well-organised PTAs or Boards, funds can be raised from the community to

complement government grants. The traditional partnership with grant-aided institutions will be strengthened particularly with religious groups and communities., Partnerships with the private sector for construction of facilities will also be pursued in return for support from the Ministry in terms of teachers, grants and learning materials. Stronger linkages with private schools will be developed, and regulatory frameworks and licensing criteria reviewed.

#### *2.2.3.5 Administration, Financing and Management*

The High School Education Boards will be expected to develop plans and a budget for the year, forward these to the Ministry through the District and Provincial offices, and account for monies received and spent on time. The Boards will encourage better school management and leadership, initiate fund-raising ventures, increase teacher retention and motivation, and address teacher absenteeism and indiscipline directly.

#### *2.2.3.6 HIV/AIDS*

Schools and Education Boards will play an active role in developing and implementing activities targeting the prevention or mitigation of HIV/AIDS, including peer counselling and protection mechanisms for teachers and students. Information and awareness raising will be enhanced through distribution of newsletters, magazines and development of HIV/AIDS issues in the curriculum and related materials. Replacements will be provided for teachers and administrators who are absent through sickness or have died, through re-employment of retired personnel and creation of a pool of relief or 'supply teachers' for quick redeployment.

#### **2.2.4 Cost Projections for High School Education**

**Table 10 Cost Projections for High Schools**

<b>High School</b>	<b>Actual</b>	<b>Estimate</b>			<b>Projected</b>					<b>Growth</b>	<b>High school</b>
	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2012</b>	<b>2017</b>	<b>2001-07</b>	<b>2003</b>
<b>Teachers' salaries</b>	254,895	325,362	304,478	284,935	266,647	249,532	233,516	264,145	284,564	-8%	395,763
<b>Non-teacher salaries</b>	40,695	40,695	42,545	42,859	43,178	43,502	43,830	47,218	50,868	8%	55,300
<b>Learning supplies</b>			13,904	13,904	13,904	13,904	13,904	13,904	13,904		18,073
<b>Bursary Boarding</b>	-		-	6,930	13,709	20,396	26,988	38,848	37,687		-
<b>School operating expenses</b>	31,907	29,591	26,580	24,598	22,748	21,396	20,140	13,519	8,810	-37%	34,548
<b>Special Programmes</b>	9,614	9,614	9,614	9,614	9,614	9,614	9,614	9,614	9,614	0%	12,496
<b>Standards Visits</b>	941	941	6,126	8,918	15,322	17,943	21,170	32,330	44,215	2150%	7,963
<b>Assessment</b>	5,193	7,278	9,403	9,081	8,790	8,528	8,293	8,836	9,227	60%	12,222
	45,943	45,577	47,035	45,147	45,939	45,337	44,500	44,061	43,903	-3%	61,136
	<b>389,188</b>	<b>459,058</b>	<b>459,684</b>	<b>445,987</b>	<b>439,850</b>	<b>430,152</b>	<b>421,956</b>	<b>472,476</b>	<b>502,791</b>	<b>8%</b>	<b>597,501</b>

## 2.3 Tertiary Education

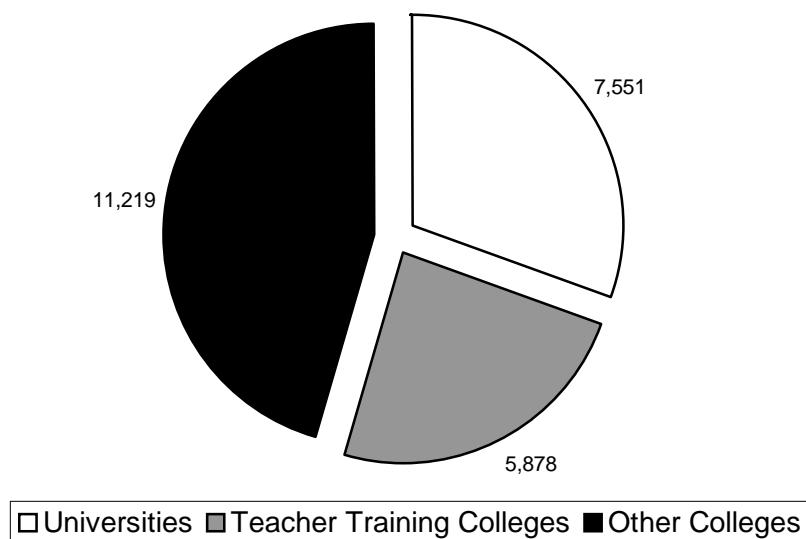
### 2.3.1 Situational Analysis

The Tertiary Sub-sector can be characterised by two specific groups. The first are those institutions falling directly under the Ministry of Education. These include the two universities – the University of Zambia (UNZA) and the Copperbelt University (CBU). In addition, there are 14 Teacher Training Colleges in the country of which 12 cater for the production of teachers for grades 1 – 7 and the other two for upper basic and high schools. The Natural Resources Development College also provides teachers for agricultural science.

The second group are those colleges registered under the Technical Education, Vocational and Entrepreneurship Authority (TEVETA), which consist of 151 colleges offering diplomas in various fields. Roughly half of these colleges are private with the remaining run by the government, religious organisations or the community.

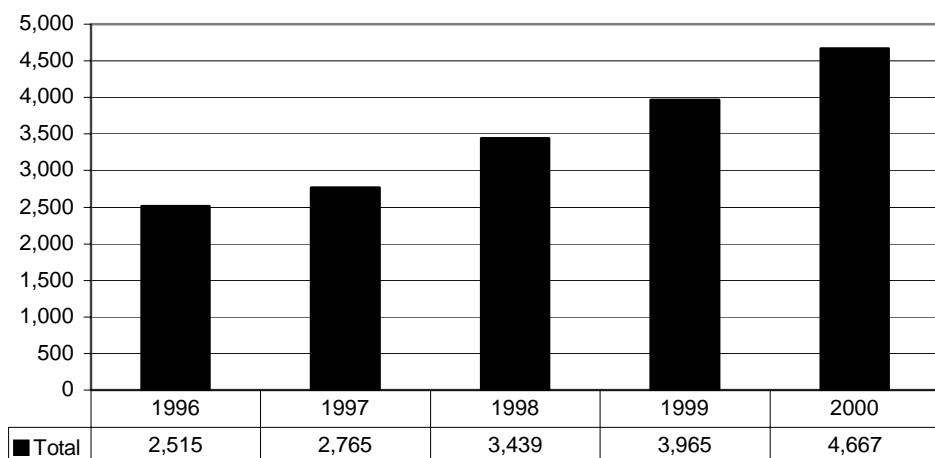
The number of students enrolled in these tertiary institutions numbered 24,648 in 2000. The number of females enrolled in the TTCs is slightly higher than that of males. Women account for 32% in UNZA, only 19% in CBU and 42% of the enrolment in the colleges registered under TEVETA.

**Figure 4 Number of Students Enrolled in Tertiary Institutions (2000)**



Source: Ministry of Education, Planning Unit; TEVETA; UNZA; CBU

The output of teachers has been increasing in the last years. In 2000, the total output of the 14 TTCs was 4,667 new teachers. The Zambia Teacher Education Course (ZATEC) is currently producing 4000 new teachers per year for grades 1 – 7.

**Figure 5 Output of Teacher Training Colleges (1996 - 2000)**

Source: Ministry of Education, Teacher Education

Currently, the involvement of UNZA in teacher education lacks co-ordination with national initiatives, despite having initial teacher education for high school teachers, a Special Education Department and an embryonic degree programme in Middle Basic education.

The total number of professional and teaching staff at UNZA is currently at 516 and 180 for CBU. In the area of teacher training and development, the Ministry of Education currently provides 14 Teacher Training Colleges with a total enrolment of 5,878 students in 2000. The number of lecturers in the colleges totals 384.

### **2.3.2 Sub-sector Goals**

THEME	WORK PROGRAMMES	SUB-SECTOR GOAL
<b>Access/Equity</b>	<b>Policy and Planning</b> <b>Financial Management</b> <b>Procurement</b> <b>Infrastructure</b> <b>Distance Education</b>	1. Increase access to colleges of education and universities through formal and distance modes, particularly for those with special education needs, women, and vulnerable groups.
<b>Quality</b>	<b>Teacher Education</b> <b>Curriculum and Assessment</b> <b>Standards and Evaluation</b> <b>University</b>	2. Improve production of professionally competent teachers for the new curricula in co-ordination with UNZA, private institutions and other line Ministries.  3. Provide a high quality university education system, which will produce skilled, productive and socially responsible human resources for the changing needs of the country.
<b>Administration, Financing and Management</b>	<b>Policy and Planning</b> <b>Human Resource and Administration</b>	4. Strengthen the capacity of the College Education Boards to plan, cost, manage and monitor the delivery of quality teacher education.

THEME	WORK PROGRAMMES	SUB-SECTOR GOAL
	<i>Institutional Development University</i>	5. Develop a well-managed university system in terms of sound administration, financial planning, and cost-recovery.
HIV/AIDS	<b>Policy and Planning Special Issues</b>	6. Develop and support actions aimed at mitigating and reducing the impact of HIV/AIDS on colleges and universities.

N.B. The specific objectives for each sub-sector can be found in the National Implementation Framework Summary in the Appendices

### 2.3.3 Strategic Summary

#### 2.3.3.1 Teacher Education

##### *Initial Teacher Training*

In the case of Teacher Education, two key developments are planned. Firstly, all institutions offering initial teacher education will become Colleges of Education. This will ensure that both basic and high school teacher education qualifications are recognised equally. All colleges will be involved in the education of teachers for grades 1-9 while some will train teachers for grades 10-12. Early Childhood Care, Education and Development will be included in the basic teacher education curricula. The ZATEC programme will be revised to cater for Grades 8 to 9, and the overall course duration will be extended from two to three years. One of the major tasks for the College Education Boards will be to consider means of increasing access to college for vulnerable groups such as women, the poor, and students with special needs.

**Table 11 Comparing Annual Teacher Needs with Projected Teacher Output**

	2001	2002	2003	2004	2005	2006
Total Annual Teacher Needs	6,866	4,109	3,732	3,609	3,232	3,125
Of Which: Middle Basic	4,466	2,841	2,621	2,440	2,159	1,994
Upper Basic	1,272	594	584	611	603	648
High School	1,128	674	528	557	469	482
Teacher Training Programme Output*	3,692	4,095	5,257	5,257	5,257	5,257
<b>Gap (Teacher Needs- Output)</b>	<b>3,174</b>	<b>14</b>	<b>(1,525)</b>	<b>(1,649)</b>	<b>(2,026)</b>	<b>(2,132)</b>

Teacher Training Programme output for 2001 and 2002 is lower than in subsequent years because of the changes in the structure of the Middle Basic teacher-training course. ZATEC was only fully enrolled in 2002. Output from 2003 onwards is estimated as 45% of total enrolment in teacher programmes in the previous year. The figures for teacher output in 2001 and 2002 in the above table should be treated with caution. The change in the Middle Basic teacher training system between 1998 and 2002 and the poor records on private students have contributed to problems in obtaining reliable estimates.

##### *Continuous Professional Development*

The second major development will be a properly co-ordinated system of Continuous Professional Development involving colleges, teachers' resource centres, the National In-service College (NISTCOL), Zambia Institute for Special Education (ZAMISE) and UNZA. There is already an effective network of teachers' resource centres (TRC) spanning all provinces and districts, and an in-service system that reaches Zonal and school levels. Emphasis in the next 5 years will be strengthening Zonal and school-based INSET so that in-service programmes impact more directly on teachers. There will also be a need to ensure all TRCs cater for high school as well as basic education teachers.

NISTCOL will provide professional development courses for senior staff such as Inspectors, school and college managers, and Education Officers and INSET providers. In addition it will expand its distance education function, starting with the newly developed Diploma in Education by distance. UNZA will continue to have an important role as an award-granting body, but will also make a greater contribution to national teacher education policy. It will also be involved in current plans to develop Nkrumah Teachers College into a university college producing graduate teachers.

### *Teacher Utilisation and Deployment*

The Ministry of Education has developed comprehensive guidelines for Human Resource Deployment and Promotion for its staff including teachers in the Ministry. These guidelines will help to redress the historical staffing inadequacies and contribute to the development of new, dynamic and collective personnel practices.

A major initiative will be to review conditions of service and deployment of teachers and come up with improvements in postings and career structure. A range of incentives will be developed for teachers prepared to work in rural areas, especially women, and to retain specialist teachers in Grades 8 and 9 and also in high schools. Some of these incentives will include increased hardship allowances according to remoteness of rural areas, and provision of loans or allowances for teachers' housing. Another key issue is the rate of teacher attrition due to HIV/AIDS, which involves careful planning for training provision, as well as developing a relief teacher system.

#### **2.3.3.2 University Education**

##### *Financing*

Although the universities are autonomous, much of their funding comes from government through grants and student bursaries. The challenge therefore is for the universities to generate their own resources to supplement government funding. To ensure better planning between the Ministry of Education and universities, accurate targets of teachers needed in each discipline will be communicated to the Schools of Education, as well as to the Natural Resources Development College. One way to attract additional financial investment is for the universities to ensure that the courses and expertise they offer are relevant to the needs of government and the private sector.

To reduce debts and begin to attract financial flows, current initiatives will be developed further. The increase of private students is one such initiative, and also the encouragement of commercial development on university land, including centres with flats for students and lecturers. Other cost recovery strategies will include better management of consultancy fees so they benefit the institutions as well as individuals, and the development of specialised, tailored short and long courses for industry and government. Other business ventures will include hosting of seminars/conferences, support to development of ICT networks and commercialisation of ancillary units.

The implications of this for administration, financing and management are considerable and the quality of financial management at the current universities, faculties and schools will need to be greatly improved.

### **2.3.3.3 *Access/Equity***

The high cost of university education means that bursaries are insufficient for those who qualify for admission but cannot afford the fees. In addition, universities will have to invest in rehabilitation and expansion of infrastructure, especially hostels, to cater for increased access. While the government will be increasing bursaries for women, the poor, and students with special needs, the universities are also revising their admissions policies to enable greater access in general.

The following initiatives are also being planned: increasing admission for privately-sponsored students; expanding distance and evening classes; and development of partnerships with businesses to set up foundations for financial assistance to students from disadvantaged backgrounds. For those who are not so disadvantaged, a loan scheme will be implemented. The government is also considering additional ways of increasing access and diversifying courses. One option is converting some existing colleges into university colleges. Another option is creating new faculties at existing universities, while the third option is establishing a new university.

### **2.3.3.4 *Relevance***

The universities will ensure that the courses and expertise they offer are relevant to the needs of government and the private sector. This will necessitate a continuous review of the curricula offered. It is also important for universities to engage more with key educational issues and policies relating to poverty reduction, particularly at basic and high school level. In this respect, co-ordination with Ministry of Education will improve in the areas of teacher education, curriculum development, special education, distance learning, and adult basic education, including adult literacy.

In particular, stronger linkages will be established between the School of Education and the Directorate of Teacher Education, and between the Centre for Continuing and Distance Education, Centre for Life-Long Learning and the Directorate of Distance Education. A structure of open and distance learning will be set up from Grade 8 to degree and post-graduate level, with properly co-ordinated programmes for adult basic education and adult literacy instead of the current fragmented initiatives.

In future university management will be represented at senior management meetings in the Ministry, and the Higher Education Authority will provide a major focal point for regular communication.

### **2.3.3.5 *HIV/AIDS***

Universities and colleges will play an active role in developing and implementing activities targeting the prevention or mitigation of HIV/AIDS, including voluntary counselling and testing, condom supply, and other support mechanisms. Information and awareness-raising will be enhanced through distribution of newsletters, magazines and development of HIV/AIDS issues in the curriculum and related materials.

### 2.3.4. Cost Projections for Tertiary Education

#### Teacher Education

Pre-Service Teacher Education Colleges for basic education teachers have a shortfall of around 250 student places, and the two training colleges for high school teachers need rehabilitation. The Ministry between 2003 and 2007 will provide around 1,000 training college places to address the backlog as well as to cater for the increasing enrolment. These additional places are based on the assumption that all students will be boarders to give equal opportunities to eligible students to be selected on the basis of merit.

Staff houses will be provided at a ratio of 1 house per 24 students. Further, major rehabilitation works at two training colleges for high school teachers will be carried out, and professional development will become a common practice in the Ministry. Of the envisaged 800 zone resource centres, 100 are being established, while 72 will be created through modification of district centres. There is a shortfall of 618 zone resource centres. The Ministry proposes to provide 618 zone resource centres. A needs assessment will be carried out to ascertain the most needy areas.

**Table 12 Expenditure Projections for Teacher Education**

Teacher Training (pre.)	Estima te					Projec ted					Ttraining 2003	
	Actual		2001 2002 2003 2004 2005			2006 2007 2012 2017						
	2001	2002	2003	2004	2005	2006	2007	2012	2017	2003		
Lecturers' salaries	333,258	333,258	338,257	343,331	348,481	353,708	359,014	386,766	416,663	439,669		
Non-teacher salaries	56,091	56,091	56,091	56,091	56,091	56,091	56,091	56,091	56,091	56,091	72,907	
Program expenses op.	1,583,672	1,583,672	1,583,672	1,583,672	1,583,672	1,583,672	1,583,672	1,583,672	1,583,672	1,583,672	2,058,467	
<b>Assessment</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>46,199</b>	<b>60,050</b>	
	<b>2,019,220</b>	<b>2,019,220</b>	<b>2,024,219</b>	<b>2,029,293</b>	<b>2,034,443</b>	<b>2,039,670</b>	<b>2,044,976</b>	<b>2,072,727</b>	<b>2,102,624</b>	<b>2,631,094</b>		

Continuing Prof. Dev.	Estimat e					Projec ted					CPDev. 2003	
	Actual		2001 2002 2003 2004 2005			2006 2007 2012 2017						
	2001	2002	2003	2004	2005	2006	2007	2012	2017	2003		
INSET Programmes	183,570	183,570	183,570	183,570	183,570	183,570	183,570	183,570	183,570	238,605		
TRC running expenses	30,519	13,211	63,147	84,473	105,721	127,633	149,881	98,095	68,355	82,079		
	<b>214,089</b>	<b>196,781</b>	<b>246,717</b>	<b>268,043</b>	<b>289,291</b>	<b>311,203</b>	<b>333,451</b>	<b>281,665</b>	<b>251,925</b>	<b>320,685</b>		

#### Universities

University enrolment has been projected to increase by 35% for both universities resulting in the creation of about 3,000 additional places in the period 2003 – 2007. A significant increment in recurrent funding to Universities is included between 2001 and 2002 (based on budget estimates for 2002 which show an 18% increase over 2001 expenditure). Thereafter a real increment of 2% per annum has been assumed.

The estimated allocation for University education in 2002 is K6, 553 billion representing 5% of the total education budget. The total allocation to university education for the whole

planning period, 2003 – 2007 will amount to K81, 324 million and averaging K16, 265 million. These costings are in constant Kwacha at 2001 prices.

The existing two universities have a total enrolment of around 9,000 students. There is much pressure to increase the capacities. The university facilities, in particular the student hostel facilities, are in dire need of rehabilitation. They are also over-utilised due to over enrolment and lack of facilities for cooking. The Ministry between the periods 2003-2007 will assist universities to provide around 3,000 additional student places to cater for the increasing demand. It is also assumed that 50% of the new students will be boarders. Houses for teaching staff will be provided at a ratio of 1 house per 32 students. The Ministry will support the rehabilitation works for essential parts of infrastructure and installations at both universities.

## **2.4 Administrative and Support Services**

### ***2.4.1 Situational Analysis***

The restructuring of the Ministry has taken longer than expected and this has led to certain problems in improving co-ordination and providing some of the key functions and services of the Ministry. New positions need to be created in line with new demands that have arisen since the restructuring document was prepared. .

Presently, the Planning and Information Directorate in the Ministry of Education is not well co-ordinated with provincial and district offices and the result of this is that the vital statistics on pupils, enrolment rates, drop out rates, teachers, educational materials etc, are not up to date and sometimes not accurate. There is also inadequate, well-trained staff in planning, statistics, and information management at the different levels of the Ministry. However, with the development of EMIS, the situation is improving and many new capacity building initiatives are taking place.

Presently, the flow of information from the Ministry to the community is weak and needs to be strengthened. The staff need to be trained in order to carry out effective analyses, and co-ordinate dissemination of policy guidelines from the Ministry of Education to the public. There is also need to co-ordinate the training and development of human resources and to equip staff with new skills to manage the Human Resource operations of the Ministry.

The standards and evaluation section is not well staffed and most of the standards officers are attached to projects. The section has not carried out frequent field inspections in order to monitor and maintain appropriate educational standards. It has also not been providing frequent professional encouragement, guidance and counselling to teachers through visits to schools as well as arranging in-service training courses.

The Curriculum Development section has also a shortage in staffing levels. As a result of this, the section has not been able to undertake curriculum related research and constantly advise the Ministry on curriculum policy. However, under BESSIP the Curriculum Development Centre has developed the new Basic Education Curriculum Framework and also materials under the Middle Basic Reading Programme. However, school publications such as the Orbit magazine are no longer published due to shortage of staff.

Currently, the teacher education training functions and placement are spread among many departments such as Standards and Curriculum Development, Teacher Education Department and Human Resources Department in the Ministry. This has made accountability difficult and implementation of teacher education programmes less effective . The slow process of putting new teachers on the payroll has also affected the system.

The Ministry, with its limited resources, has not been able to provide full-time education to all learners. It has been supplementing this provision by using distance learning. Part of this has been through interactive radio instruction provided through the Education Broadcasting Services. Also, through its Department of Continuing Education, the Ministry has been providing educational programmes through the National Correspondence College, the open learning centres and training in specific skills in the schools of continuing education.

Continuing and distance education has faced serious problems of under-funding, inadequate trained personnel and insufficient materials for learning and teaching. They have also suffered from unco-ordinated planning. Currently, the University of Zambia provides part of its education degree programmes through distance education.

#### **2.4.2 Sub-sector Goals**

THEME	WORK PROGRAMMES	GOAL
<b>Access/Equity</b>	<b><i>Distance Education</i></b>	<ol style="list-style-type: none"> <li>Reform and revamp open and distance learning modes of delivery to increase access to quality basic, high school and adult education.</li> </ol>
	<b><i>Infrastructure</i></b>	<ol style="list-style-type: none"> <li>Expand the quantity and improve the quality of school and college buildings to meet current and future demands.</li> </ol>
<b>Quality</b>	<b><i>Curriculum and Assessment</i></b>	<ol style="list-style-type: none"> <li>Set up minimum education standards and monitor them in government, private and non-formal educational institutions.</li> </ol>
	<b><i>Standards and Evaluation</i></b>	<ol style="list-style-type: none"> <li>Provide a relevant and a competency-based curriculum at all levels supported by sufficient and varied learning and teaching resources.</li> </ol>
	<b><i>Teacher Education</i></b>	<ol style="list-style-type: none"> <li>Evaluate education quality at all levels by developing assessment schemes that promote effective learning and teaching.</li> <li>Expand and regulate production of professionally competent teachers for the new curricula in line with pupil enrolment growth.</li> <li>Strengthen the functioning of specialised services to improve the quality of education.</li> </ol>
	<b><i>Policy and Planning</i></b>	<ol style="list-style-type: none"> <li>Provide well-planned quality education through co-ordination / monitoring of educational planning activities at all levels, based on reliable data and information.</li> </ol>
<b>Administration, Financing and Management</b>	<b><i>Special Issues</i></b>	<ol style="list-style-type: none"> <li>Co-ordinate the implementation of programmes targeting Gender/Equity and School Health and Nutrition within Basic, High School and Tertiary sub-sectors.</li> </ol>
	<b><i>Human Resource and Administration</i></b>	<ol style="list-style-type: none"> <li>Establish administrative and professional capacity at all levels to ensure equitable and efficient delivery of educational services.</li> </ol>
	<b><i>Institutional Development</i></b>	
	<b><i>Financial Management</i></b>	<ol style="list-style-type: none"> <li>Establish and operate a well co-ordinated,</li> </ol>

THEME	WORK PROGRAMMES	GOAL
	<b>Procurement</b>	<p>decentralised financial management system that ensures efficient resource mobilization, equitable allocation and accountability.</p> <p>12. Establish an efficient, accountable and decentralised procurement and distribution system.</p>
HIV/AIDS	<b>Policy and Planning</b> <b>Special Issues</b> <b>Human Resource and Administration</b>	<p>13. Co-ordinate HIV/AIDS activities that are mainstreamed through directorates, provinces, districts and institutions.</p> <p>14. Develop strategies for addressing the impact of HIV/AIDS on the education system based on reliable information and data.</p> <p>15. Develop policies to support and protect the workforce from HIV/AIDs, and to replace personnel missing through sickness or death.</p>

N.B. The specific objectives for each sub-sector can be found in the National Implementation Framework Summary in the Appendices

#### 2.4.3 Strategic Summary

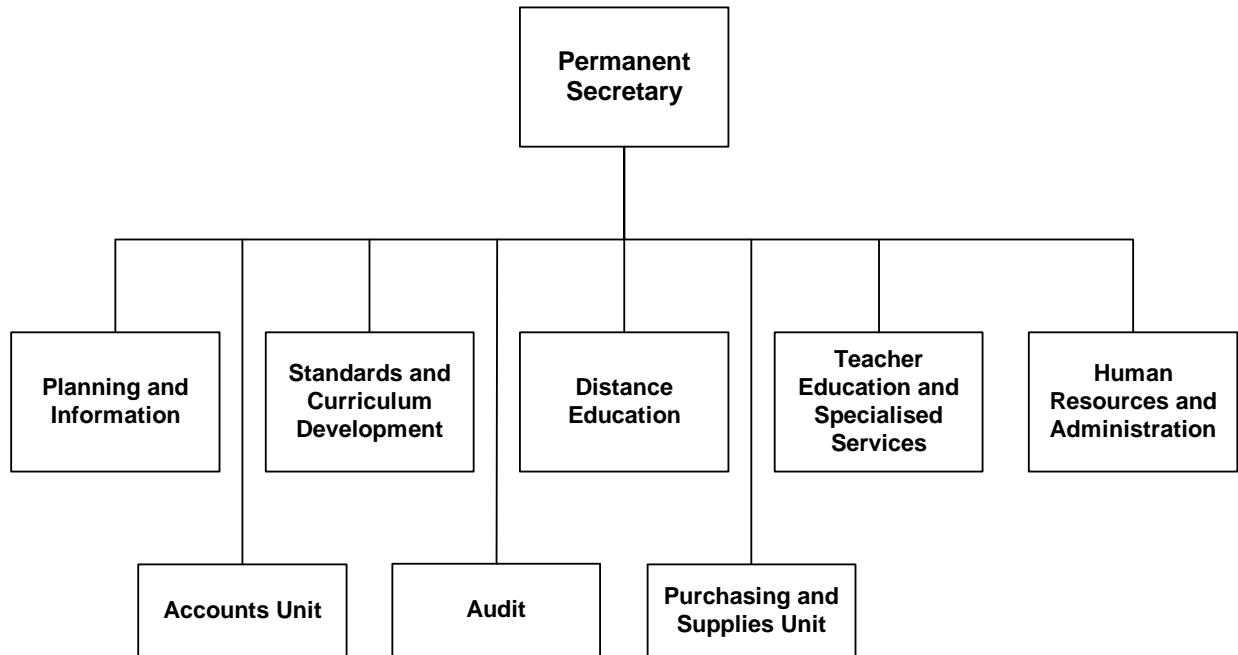
Implementation of this plan will depend a great deal on the effectiveness of the Ministry's various administrative and support services at Headquarters, provincial, district and school level. It has already been seen in BESSIP that services such as planning and information, accounts, procurement, infrastructure and human resource capacity building can have a positive or negative effect on the success of a programme.

In the restructured Ministry, there will be five main Directorates reporting to the Permanent Secretary, along with key units such as Accounts, Purchasing and Supplies Unit and Audit (see Figure 6). The roles of each directorate are captured clearly in the goals given above and in the objectives (Appendix 3).

Co-ordination of crosscutting issues such as HIV/AIDS, School Health and Nutrition, Gender and Equity will be carried out within Planning and Information Directorate using designated personnel. Special Units for this purpose will be set up while terms of reference will be developed and designated for each of the special Units. The Directorate of Planning and Information will provide the technical focus to assure good development of policy for the special programmes, quality of programme design and assistance in prioritisation.

The Education Board Services section will now be placed under the Directorate of Planning and Information and will be supported by Accounts Unit in dealing with disbursements to districts and schools.

To counter the problem of poor coordination in the education sector, a National Educational Sector Authority (NESA) will be established to co-ordinate the activities of all education providers. Membership will come from line ministries, civil society and the private sector. The overall responsibility for it will fall under the Ministry of Education.

**Figure 7    Restructured Ministry of Education**

#### *2.4.3.1 Policy formulation, Planning and Information Management*

In BESSIP, the Ministry demonstrated that it can develop costed work plans effectively and manage the complex finances of a major investment programme competently. However, the challenge now is to absorb the good elements of BESSIP management and accountability into the new Ministry structure.

Policy formulation will be co-ordinated by Planning and Information Directorate, particularly in terms of analysis of and recommendations on current and emerging policies, to enable policy decisions to be taken at top management and Cabinet levels.

Functions of planning and information will be delegated and co-ordinated across the different directorates at headquarters as well as with the provincial and district offices, and education boards. This will also ensure that facilities such as teachers' resource centres and open learning centres are fully utilised for basic, high school, teacher education and adult education.

Fully integrated and properly maintained ICT systems will enable crucial information and updates on the education system to reach planners for policy decisions and implementation schedules. In this regard the Education Management Information System (EMIS) will be fully developed and maintained at all levels of the decentralised system. It will be particularly important in terms of analysing the impact of HIV/AIDS on the workforce in order to come up with key policy and management decisions on the Ministry's human resources.

#### *2.4.3.2 Financial Management*

Improvements to the expenditure planning, management, and tracking systems within the Ministry, will be achieved through a Medium Term Expenditure Framework (MTEF) which is being developed in collaboration with the Ministry of Finance and National Planning and linked to the Poverty Reduction Strategy Paper (PRSP). The Ministry will focus on enhancing financial management capacities as well as the development of more integrated accounting systems running from headquarters through to district level. More delegation of financial authority both within the Ministry headquarters and to provinces, districts and

schools will be made, once these capacities have been developed. This will help to reduce the delays caused by limited authorisation channels.

Procedures for financial disbursements of funds based on institutional annual work plans and budgets will be streamlined in order to speed up spending and implementation of activities.

Operational guidelines for fair allocation of funds to boards, schools and other institutions will be developed and distributed to all levels while monitoring on expenditure will be enhanced. Within the context of decentralisation, community involvement through the Education Boards will be strengthened to monitor utilisation of resources at local levels.

#### *2.4.3.3 Procurement*

The Ministry will develop a more efficient decentralised system for the procurement of the works, supplies and services to support the delivery and management of education at all levels. The Unit at Headquarters will also be improved in terms of capacity and skills. However, decentralised procurement will also require the development and implementation of an audit plan, because initially more problems can be expected in this area.

With respect to textbook provision, the Ministry of Education will encourage the development of a fully liberalised and commercial book sector, which is based on an efficient decentralised procurement system. Within this context, book selection authority will be devolved to schools whilst purchasing authority will be to districts. In addition, to enhance skills in the area of textbook provision, the Ministry of Education will re-organise itself so that textbook provision becomes embedded in the core planning functions of MOE and serviced by a strong information management system.

#### *2.4.3.4 Human Resource*

Under the restructured Ministry, the Directorate of Human Resources and Administration will be responsible for the development and management of the human resource as well as the development of an efficient and effective administrative system, both of which support the operations of the Ministry. An HRD plan has already been developed, and training ,staff development needs and courses have been identified. One priority will be to address the shortage of women in top management positions through access to relevant training.

Under its administration function, the Directorate will also promote and strengthen communications between the Ministry and the community through its public relations activities. It will also be responsible for developing workplace policies on HIV/AIDs in all education institutions. In the implementation of programmes, officers in each Directorate, Province, District and School levels will be designated particular programmes and sub-programmes. The overall responsibility for execution of the Plan will be at top management at national headquarters, province and district. In this regard, change management/training will be a top priority in preparation of the staff for their new responsibilities.

#### *2.4.3.5 Decentralisation and Education Boards*

The decentralised delivery of education services will put much more onus on the provinces, districts, institutions and schools in the next five years in the implementation of the Plan. The Boards form the vanguard of decentralisation, and it is important that they operate efficiently, and with accountability.

Successful decentralisation will depend on the support and empowerment the Boards receive from Headquarters. Education Board Services, which oversees the education

boards at college, school and district level will be based in the Directorate of Planning and Information.

The system of disbursement to boards will be streamlined so that activities are not hampered by lack of funds. Procurement of educational materials in particular will be decentralised to districts and schools. Standards officers will also be provided with transport and funds to enable close monitoring of learning achievement and impact of the programmes.

Major capacity building programmes for all the Education Boards are to be undertaken over the next 5 years in planning and budgeting; managing funds and accounting procedures; procurement procedures; reporting procedures; team-building; and community mobilisation and fund-raising. The Ministry will also need to review the complement of accounting, procurement, and management staff at District level and its own capacity at Headquarters to handle decentralisation from 2003 onwards.

The Provincial Education Offices will assume a new dimension with emphasis on co-ordination of the implementation of programmes and activities, monitoring and supervision of policy and standards as well as ensuring accountability. They will develop provincial training teams to carry out capacity-building and work closely with District Education Boards and the District Education Standards Offices.

#### *2.4.3.6 Standards and Curriculum Development*

Standards Officers will be crucial in monitoring the delivery and impact of the Plan, particularly at District level. In particular, they will be responsible for measuring the overall quality of the system in terms of pedagogical delivery (teachers), management (heads and education boards), and assessment (examinations and continuous assessment). Defined performance benchmarks and evaluation frameworks will be developed in collaboration with the National Assessment Survey, Examinations Council and Education Board Services in order to establish minimum education standards.

Capacity in Curriculum Development will be greatly increased, partly through technical assistance, to handle the implementation of the Basic Education Curriculum Framework, particularly in terms of life skills and HIV/AIDS, and the reform of the high school curriculum. Stronger relationships will be formed with the publishing industry in developing a textbook policy, materials quality control and pricing agreements. Better utilisation will be made of experienced teachers and heads in developing new syllabi.

#### *2.4.3.7 Teacher Education*

The deployment and compensation of teachers is a key factor in the improvement of basic and high school education, particularly the link between Initial Teacher Education and Continuing Professional Development. Teacher Education will work with other stakeholders on improving incentives for teachers to stay in rural areas, and revising the pay structure. In addition, this Directorate has responsibility for expanding Special Education needs provision and also implementing the Early Childhood Care Education and Development initiative.

#### *2.4.3.8 Distance Education*

Open and distance learning provides an important access to basic and high school education for out-of-school children. This Directorate will rehabilitate structures such as the National Correspondence College and improve materials and tutor provision and compensation for open learning centres. It will build on the interactive radio initiative and the

improvement of education broadcasting to expand media support both for informal and formal modes of education delivery and complement the teachers' role. Distance Education will also have the responsibility for developing the adult literacy strategy in collaboration with other stakeholders.

#### 2.4.3.9 Co-ordination with other stakeholders

Much better co-ordination, planning, information-sharing and teamwork will be developed within the Ministry and between Ministry and other stakeholders, including other line Ministries, autonomous institutions, Universities, colleges, schools, provinces, districts, communities and civil society.

#### 2.4.4 Cost Projections for Administrative and Support Services

Personal emoluments have historically been taking the largest share of the Government allocation to education. The Ministry plans to address this disparity. The annual salary growth rate will also be sustained at 1.5% in real terms. The restructuring of the Ministry of Education increases the overall salary bill substantially.

**Table 13 Administration and Support Services**

(All costs are in 2001 K million)

Cost Item	Base	Estimate	Projections						
			2001	2002	2003	2004	2005	2006	2007
<b>Headquarters</b>	<b>34,293</b>	<b>21,156</b>	<b>28,033</b>	<b>28,186</b>	<b>28,341</b>	<b>28,499</b>	<b>28,659</b>	<b>29,495</b>	<b>30,397</b>
<b>Salaries</b>	4,780	4,780	10,200	10,353	10,508	10,666	10,826	11,663	12,564
<b>Operating expenses:</b>	29,513	16,376	17,833	17,833	17,833	17,833	17,833	17,833	17,833
GRZ Departments	18,165	5,028	6,485	6,485	6,485	6,485	6,485	6,485	6,485
Admin (Fin. M/ment etc)			2,048	2,048	2,048	2,048	2,048	2,048	2,048
Human Resource			1,536	1,536	1,536	1,536	1,536	1,536	1,536
Planning			1,024	1,024	1,024	1,024	1,024	1,024	1,024
Standards			597	597	597	597	597	597	597
Ted & Special Services			1,280	1,280	1,280	1,280	1,280	1,280	1,280
Sector Prog. Admin./ Decent.	11,348	11,348	11,348	11,348	11,348	11,348	11,348	11,348	11,348
<b>Provincial/District</b>	<b>28,521</b>	<b>27,774</b>	<b>50,560</b>	<b>41,760</b>	<b>42,210</b>	<b>42,667</b>	<b>43,131</b>	<b>45,556</b>	<b>48,168</b>
<b>Salaries</b>	20,376	20,376	38,800	30,000	30,450	30,907	31,370	33,795	36,408
<b>Operating expenses:</b>	8,145	7,397	11,760	11,760	11,760	11,760	11,760	11,760	11,760
GRZ **	3,722	2,975	7,338	7,338	7,338	7,338	7,338	7,338	7,338
Provincial			2,816	2,816	2,816	2,816	2,816	2,816	2,816
District			4,522	4,522	4,522	4,522	4,522	4,522	4,522
Sector Prog. Admin./ Decent.	4,422	4,422	4,422	4,422	4,422	4,422	4,422	4,422	4,422

There is an encompassing category in the expenditure projections called 'Other'. This accounts for approximately 1% of total recurrent expenditure and covers: CDC; Skills Training; Adult Literacy; Continuing Education; Grants (Pre-School Association, JETS; Subject Associations; NLS; NSC; TAB; UNESCO; NLS). For the recurrent projections an annual increase of 2% in real terms was applied to this category.

#### **2.4.5 Summary of Work Programmes**

The Ministry will focus its efforts and financial investment through 12 major programmes to take forward the strategic direction, pursue the goals and achieve the objectives. These programmes consist of a number of sub-programmes and form the basis for ensuring that responsibility and accountability for achievement are clearly allocated. A total of 42 Sub-programmes have been developed within the broad programmes. Of the 12 programmes, 8 will focus on the broad themes of access, quality and HIV/AIDS, while the remaining 4 programmes will focus on administration and support services. All the 12 programmes will have an integral component of monitoring and training.

The programmes and sub-programmes cut across the sub-sectors of Basic Education, High School Education, Tertiary Education and also Administrative and Support Services :

WORK PROGRAMMES	DESCRIPTION
<b>1. Policy and Planning</b> <b>Sub-Programmes</b> Policy Analysis Planning, Research and Monitoring Integrated Information Management Budget and Projects IT in Learning Institutions Education Board Services Bursaries	The Planning and Policy programme will aim at co-ordination and management of the sector strategy with specific focus on ensuring that the Ministry is on course in its the set goals. This programme will also be the locus of innovation through systematic policy research and review, while harnessing the vast potential of information technology. The programme will be 'housed' in the Planning and Information Directorate and will ensure that effective linkages between programmes, sub-programme, Directorates and all levels of education delivery are well defined and maintained.
<b>2. Infrastructure</b> <b>Sub-Programmes</b> Construction Rehabilitation Maintenance	This programme places importance on expansion of access through the provision of acceptable and appropriate infrastructure to communities within easy access. It will utilise various modalities and methods of cost effective construction and rehabilitation, to ensure that teaching and learning takes place in a safe and healthy atmosphere.
<b>3. Special Issues</b> <b>Sub-Programmes</b> HIV/AIDS Gender and Equity School Health and Nutrition Special Needs	The primary aim of the special issues programme is to respond appropriately to challenges facing the Ministry at a given time. Specifically this covers areas such as HIV/AIDS, gender and equity, SEN, SHN. It will ensure that these and other issues are co-ordinated and integrated across all strategic programmes. This programme will be come under the Director of Planning and Information.
<b>4. Teacher Education</b> <b>Sub-Programmes</b> Initial Teacher Training Continuous Professional Development Specialised Services	The Teacher Education Programme will focus primarily on two fronts: Firstly it will ensure that teacher supply needs are met in line with the articulated strategic policy options and goals; secondly it will ensure that the serving teachers have their pedagogical and content skills upgraded as often as possible in order to improve their individual performance and that of the system. The Teacher Education Directorate will coordinate the programme.
<b>5. Standards and Evaluation</b> <b>Sub-Programmes</b> Standards and Evaluation Accreditation	This programme will ensure that the quality of education delivery meets the targets of the Sector Plan by monitoring the learning achievement and acquisition of appropriate life and social skills by pupils. It will support curriculum delivery in schools and as well as school management. It will also co-ordinate closely with the Teacher Education Programme by giving immediate feedback on what

	approaches are working and where changes are needed to improve the delivery of the curriculum. It will further assist in identifying areas that need curriculum and methodological reform. The Programme will be in the Standards and Curriculum Directorate.
<b>6.Curriculum and Assessment Sub-Programmes</b> Curriculum Development Education materials Examinations and Assessment	This programme will focus on ensuring that the curriculum is regularly reviewed and updated to meet the challenges and expectations of the Sector Plan. It will also ensure that quality and relevant education is provided to all learners, which will enable them to exploit their personal potential and contribute to national development. The Programme will be an inherent component of the Standards and Curriculum Directorate
<b>7. Distance Education Sub-Programmes</b> Open and Distance Learning Adult Literacy	This programme will be extremely important in developing alternative approaches to in-service, upgrading and general delivery of education by harnessing modern approaches and technology while being cost effective. It will also broaden access to a wider range of learners for whom access to more formal places of learning and specialised subjects is either impractical by virtue of location or high cost to both the learner and the education system. This programme will be managed by the Directorate of Distance Education.
<b>8. University</b>	This programme underpins the importance of Universities to national development through various academic and research activities. It also focuses on developing the quality of higher education and greater access to enable more learners attain the higher-level skills relevant to the developmental needs of the country.
<b>9. Human Resource and Administration Sub-Programmes</b> Human Resource Policy and Management Human Resource Training and Development Human Resource Recruitment and Deployment Legislation Administration	This programme focuses on ensuring that the Ministry recruits, retains and upgrades the performance levels of its employees through a variety of approaches ranging from on-the-job training to medium/longer term courses. It will also ensure that clear career paths are defined while at the same time providing guidance and policy direction on issues of career development and management. This programme will also ensure that adequate human resource is deployed at all levels as the functions of the Ministry are decentralized. The programme will come under the Directorate of Human Resources and Administration.
<b>10.Financial Management and Accounting Sub-Programmes</b> Budget Management Financial Management Resource Mobilisation Audit	This programme will undertake to ensure that resources are mobilised and judiciously managed in line with agreed modalities through transparent processes and strong financial guidelines. Through this process the Ministry will endeavour to maintain the highest standards of accountability of resources for delivery of services, so that the learners benefit to the maximum. This Programme will overarch the Permanent Secretary's office and the Accountants and Audit sections of the Ministry.
<b>11. Procurement Sub-Programmes</b> Material Supplies Services Capital Projects	This programme ensures that the acquisition of goods, works and services balances the need for effectiveness of supply with efficiency of delivery to meet user needs, while maintaining transparency and achieving value for money.

<b>12. Institutional Management Sub-Programmes</b> Strategic Management Institutional Development Management of Change Public Relations	This will provide the overall framework within which the sector and the Ministry will function. It will be part of the Permanent Secretary's office.
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In addition, three sub-programmes will be developed to facilitate the management and institutional change necessary for the implementation of the Strategic Plan. These will be *Strategic Plan Management, Institutional Development Management of Change, and Public Relations*. These sub-programmes will be based in the Office of the Permanent Secretary for a defined period, after which they will be shifted to their respective Directorates.

A detailed description of the Programmes, Sub-programmes and activities will be developed in a five-year Strategic Implementation Framework.

#### **2.4.5.1 Management and Monitoring of the Programmes**

The management, planning, implementation and monitoring of the Strategic Plan will be based in the new Directorates and functions of the restructured Ministry. In particular, the newly formed Education Boards at all levels will play an increasingly important role in managing and implementing the delivery of education services. To enable the strategic vision to be realised and the goals and objectives to be achieved, the Ministry will:

- a) adopt a consistent and systematic approach to planning, implementation and monitoring based on annual work plans and budgets for the strategic programmes and sub-programmes;
- b) allocate responsibility and accountability to Directors, Heads of Departments and Units, and also to Provincial, District and School levels where applicable.

The Ministry headquarters will have the responsibility of policy formulation and interpretation, as well as overall supervision of the programmes. The Provincial Education Offices will have the function of co-ordination and monitoring the programmes and activities. Planning and implementation of the programmes and activities will rest with the Education Boards at district and institution levels.

#### **2.4.5.2 Management and implementation levels and functions**

Overall responsibility for ensuring the successful execution of the Plan will rest with the *Top Management Team* chaired by the Permanent Secretary. The supervision and monitoring of the implementation will be carried out by the *Senior Management Team* chaired by the Director of Planning and Information on the headquarters level, by the Provincial Education Officer on the provincial level and by the District Board Secretary on the district level.

The planning and reporting of the programmes and activities will rest with the *Middle Management Teams* on their respective levels. Implementation of the activities will be done by the Education Boards, officers and teachers throughout the system.

Each of the major programmes will be allocated to specific HQ Directors or Heads of Units. Sub-programmes will be the responsibility of senior management officials in the Ministry. Education Boards at the various levels will also have responsibilities for the management, planning and implementation of the activities within the sub-programmes.

### *Top Management Team*

The team will comprise of the Permanent Secretary, Directors, Chief Accountant and Chief Purchasing and Supplies Officer and meet on a bi-weekly basis. Provincial Education Officers will be included in the meetings on a monthly basis. The specific functions of the team are as follows:

- Policy formulation and influence;
- Strategic direction;
- Resource mobilisation;
- Lobbying and advocacy;
- Representation with relevant stakeholders;
- Donor liaison;
- Management of change;
- Approval of Annual Work Plans and Budgets;
- Overall policy interpretation.

### *Senior Management Team*

The team will comprise of the Directors and heads of sections and units at all relevant levels and will meet on a monthly basis. The specific functions of the teams are as follows:

- Policy analysis and interpretation;
- Input / output analysis and co-ordination;
- Programme planning development;
- Co-ordinating and refining annual work plans;
- Monitoring and reporting;
- Management of change;
- Budgeting process;
- Ensure coherence of programmes and sub-programmes;
- Dissemination of information.

### *Middle Management*

Middle management will comprise of Principal and Senior Officers at the respective levels and will meet on a monthly basis. The specific functions of the teams are as follows:

- Planning of activities within the sub-programmes;
- Monitoring, reporting and feedback.

### *Operational*

The operational level will include those officers, education board members and teachers in the frontline of delivering educational services at all levels. The main function of this group will be the implementation of the activities and feedback.

#### **2.4.6 National Implementation Framework**

The framework will function as a five-year plan for all the programmes and activities, including roles, functions and responsibilities for the management of the plan at all levels.

The format for the implementation framework will be based on the sub-sectors and will define:

- Roles, functions and responsibilities at all levels;
- Indicators and targets;
- Overall activities within the goals and objectives for each sub-sector;
- Time line;
- Implementation levels;
- Overall budget.

The development of the framework will involve inputs from officers at the level of education boards, districts, provinces and the headquarters.

#### **2.4.7 Financing Modalities**

The Five Year Strategic Plan adopts the principle of an integrated sector-wide approach to the development of the education sector, as opposed to the current fragmented strategy based on a specific sub-sector. The proposals for funding the Plan are based on the modalities employed in BESSIP, and the need for harmonisation with government financial systems. They will also help to reduce transaction costs by avoiding a multiplicity of donor –managed programmes and accounts.

The sector plan will mainly be financed by the government and its co-operating partners with the former's allocation being approximately three quarters and the latter's one-quarter. Although government will be progressively increasing allocation to the education sector, it is expected that communities will continue to support schools and institutions of learning in various ways. Of note in this regard is the significant community support expected in the area of school construction, rehabilitation and maintenance.

The funding modalities have been developed with the aim of standardizing the operational mechanism for the Ministry, while maintaining transparency and accountability principles. Furthermore, this will lead to the development of sustainable financial management capacity within MoE. Co-operating partners will disburse funding directly to the Ministry under three different modalities. The three different modalities are illustrated below:

##### **2.4.7.1 Direct Sector Support Fund**

Under this arrangement, contributions from co-operating partners will be channeled directly to MoE and deposited in a common bank account, under the control and management of MoE. The funds will be used towards approved activities identified for the *whole sector*. Each level, namely basic, high school and/or the tertiary sub sectors, can all be beneficiaries of the pooled funds. Funds will be allocated as defined in the AWPB and guided by the National Implementation Framework and the strategic priorities of the MOESP. The format of the AWPB will specify the allocations by sub-sector and by source.

#### **2.4.7.2 Designated Support Funds**

Funds from co-operating partners will be channelled to MoE and deposited in separate donor designated bank accounts under the control and management of MoE. Funds will be allocated according to prioritised requirements and bilateral donor agreements with MoE. In addition, the allocation of funds to each sub-sector or specific activities will be defined in the AWPB as guided by the National Implementation Framework.

#### **2.4.7.3 Other Funding**

In recognition of existing bilateral agreements, partners involved in project funding will continue within the stipulations of these agreements. These funds will be deposited in separate bank accounts under the control and management of the donor agency. Following the end of these projects, any new agreements should undertake to meet MoE preferences for one of the cases described above. The partners will also be required to make full returns and reports to MoE on project funding in order to ensure the sector status is captured in full.

#### **2.4.8 Management of Funds: Integrated Accounting Systems**

The shift to direct sector support will be complemented by the integration of the accounting functions at the Ministry. This will focus on the development and management of joint or integrated systems at the Ministry. MoE currently uses two accounting systems, the Financial Management System (FMS) to capture expenditure GRZ funds and the Sun system to capture donor expenditures for Case 1, 2 and 3 of BESSIP. The Ministry of Education Accounting Unit will have the overall responsibility of GRZ and external funds disbursed to the Ministry. As a transitional arrangement the BESSIP Accounting Unit will continue to function in the first year until it is subsumed within the MoE Accounting Unit.

All funds of the Sector Plan will be managed under a common Integrated Financial Management Information System (IFMIS). IFMIS is an initiative by Government to improve resource, allocation and utilization. It is also intended to improve accountability and transparency in the use of funds. MoE will be a pilot Ministry in the implementation process of this information system.

The integration of the accounting systems will result in the development of common reporting and financial management information system. Progress and Financial reports from the Provinces and Boards will be submitted through the respective institutional arrangements on a monthly basis. These reports will be compiled into integrated annual reports at national level.

#### **2.4.9 Release of Funds by co-operating partners**

Co-operating partners will release funds under mutually defined criteria and agreements between the MoE/GRZ and the Cooperating Partners. The following explains what triggers will effect the release of funds by the CPs' to MoE:

*Initial deposits by the CPs to the MoE will be based on:*

- (i) Existence and approval of Annual Work Plans and Budgets for the year under consideration;
- (ii) Agreed financial commitment by government amounting to at least 20.5% of the discretionary budget

- (iii) Existence of an agreed quarterly disbursement forecast.

*Subsequent replenishment on a quarterly basis by the CPs to MoE will depend on:*

- (i) Approved Quarterly Progress and Financial Reports (including expenditure reports, cash flow statement and cash forecast) with progress measured against targeted performance indicators as laid down in the Strategic Plan;
- (ii) Formal request for the release of funds by MoE and copied to Ministry of Finance and National Planning.

#### **2.4.10 Resource Allocations**

*Activity based allocation*

Resources will be allocated to defined levels of delivery through an activity based budgeting process. This will involve engaging the implementers in developing activities in order to meet the Ministry agreed objectives within the broad framework of the sector strategy.

*General resource allocation criteria*

The Ministry will also use objective allocation criteria and funding formula that takes into account various factors such as disadvantaged groups (e.g. girls and orphans), isolated schools/districts, and actual enrolments of pupils. This will ensure that there is a fairer and more equitable allocation criteria for the scarce resources. The allocation criteria will have to be piloted, and tested before final implementation.

#### **2.4.11 Annual Work Plans and Budgets**

All activities will be incorporated into annual work plans and budgets at HQ, Province, Board and autonomous institution levels following the national implementation framework. Annual work plans will be function-based according to the organisational functions, i.e. Directorate, Unit or other statutory groups. Therefore, the National Implementation Framework, which is based on the sub-sectors, will be used in developing the activities according to the functional areas within the restructured Ministry. In order to ensure the co-ordination and monitoring of the sub-sectors, responsibilities will be assigned to relevant sections and individuals.

The planning process will be bottom up with District Education Boards planning their annual work plans with inputs from the schools. These will be consolidated at the provincial level after which further consolidation will be done at the national level.

Annual work plans and budgets will exist for each level for the Education Boards, Provincial Education Offices and Headquarters. An overall National Annual Work Plan and Budget will be produced incorporating all work plans from the various levels.

The format for the annual work plans and budgets will be based on the Directorates and will define:

- Indicators and targets;
- Specific activities within the annual objectives;
- Time line;
- Responsibilities.

The planning cycle for the development of the annual work plans will be as follows:

- Development of Education Boards draft work plans and budgets with inputs from the schools, resource centres, etc. – *District or Institutional level*;
- Development of Provincial draft work plans and budgets with the participation of the Education Board Secretaries - *Provincial level*;
- Development of National draft work plans and budgets with the participation of the Provincial Education Officers – *National level*;
- Approval of the work plans and budget for each administrative level – *National level*.

Ministry annual work plans and budgets will provide the basis for budgetary requests to the Ministry of Finance and National Planning and human resource requests, where required, to the Cabinet Office. Financial and Human Resource allocations will then be compared against annual plans, which will be adjusted accordingly.

This implementation and planning process is illustrated in Figure 7.

#### **2.4.12 Monitoring and Evaluation**

Monitoring of the progress and impact of the Strategic Plan will be done on a regular basis using various methods. This will include following the indicators and targets defined in the five-year National Implementation Framework and the annual work plans. The regular meetings of the top, senior and middle management will function to ensure the implementation of the monitoring activities on a day-to-day basis.

Monitoring will also be carried out as the main functions of the Provincial Education Offices, the District Education Boards and the District Standards Offices. In addition, respective Directorates, Sections and Units of the headquarters will also carry out monitoring as part of their regular functions.

Each Directorate and Unit on the national level and each Provincial Education Office and Education Board on the lower levels will produce quarterly reports. The reports will include, details of progress, financial expenditure and actions to be taken forward. The quarterly reports will form the basis of *Internal Quarterly Reviews*, which will be held on the Provincial and National levels.

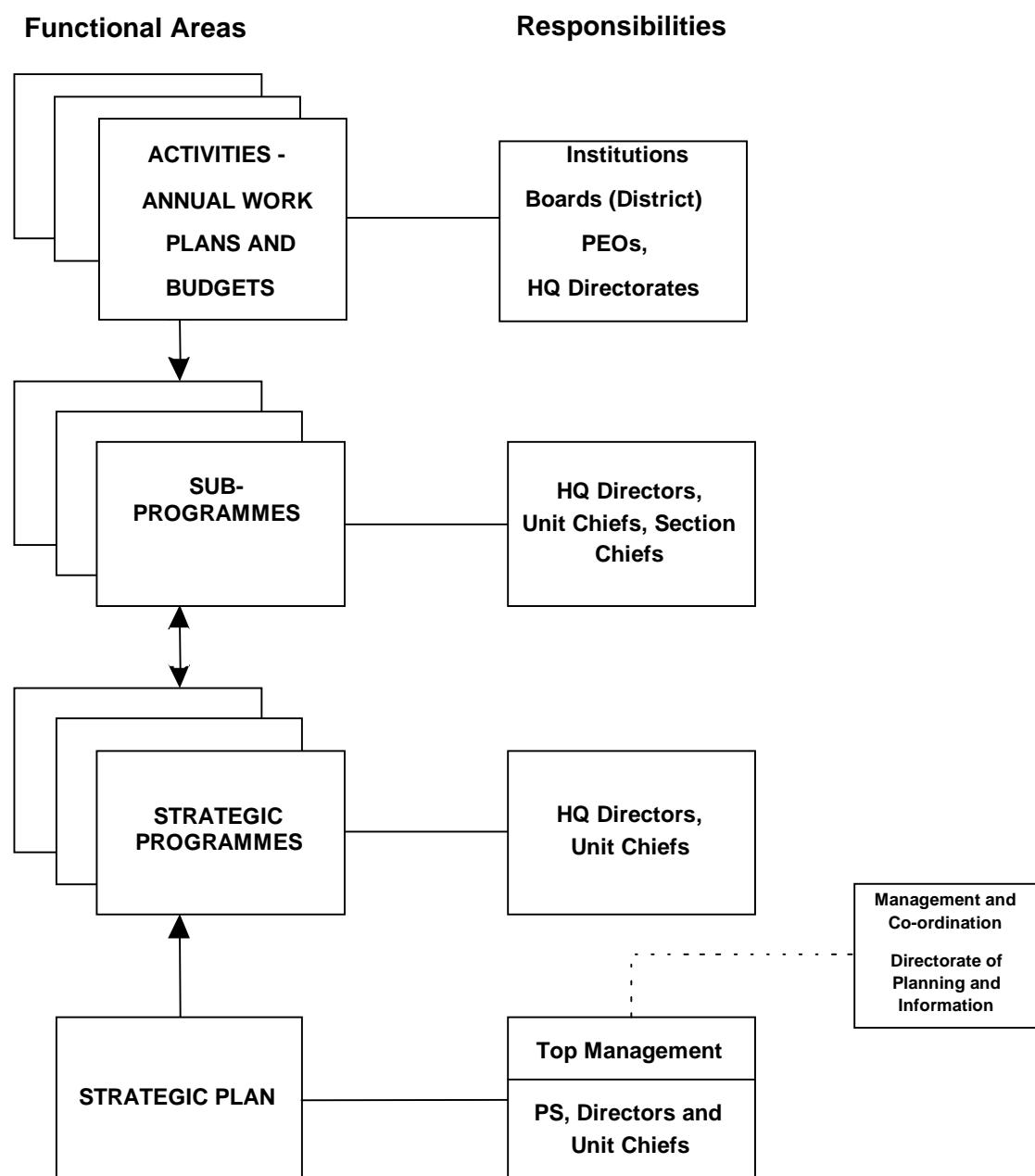
The results of each annual work plan will be produced into Annual Reports at all levels and the overall progress will be tracked against the objectives, indicators and targets. The reports will be presented at an *Internal Annual Review* with participants from all levels. Following the review these reports will be consolidated into a Ministry of Education Annual Report.

Joint donor/MoE monitoring will take the following forms:

- Quarterly Progress and Financial Reports presented to the Strategic Planning Consultative Committee.
- Annual MOESP progress and financial reports covering performance against the Annual Workplan, and progress in achieving targets and expenditure against the budget of the previous year. These will be presented at the Joint Annual External Review at the end of the calendar year.
- Annual Workplans and Budgets provided at the same Review for approval for the following year.
- Annual Independent Audit Report through the Auditor General's office

A Mid-Term Evaluation will be carried out in the third year of the Strategic Plan. This evaluation will include an impact assessment of the progress of the plan against the overall goals, sub-sector goals and objectives.

**Figure 7 Implementation Process**



### **3. Financing of Strategic Programmes**

#### ***3.1 Introduction***

This section summarises all the projected expenditure presented in the previous chapters. It further details the resource projections and the funding gaps. Expenditure projections have been arrived at by using agreed cost drivers in pursuit of the set Ministry targets. The costings have been done both in constant prices and current prices. For ease of comparison, constant prices will be used most often. The funding gap was arrived at by comparing the actual projected costs of the programme and the resource envelope. The resource envelope was determined by the government-projected allocation to education based on the current trends and commitments already made by co-operating partners during the planning period.

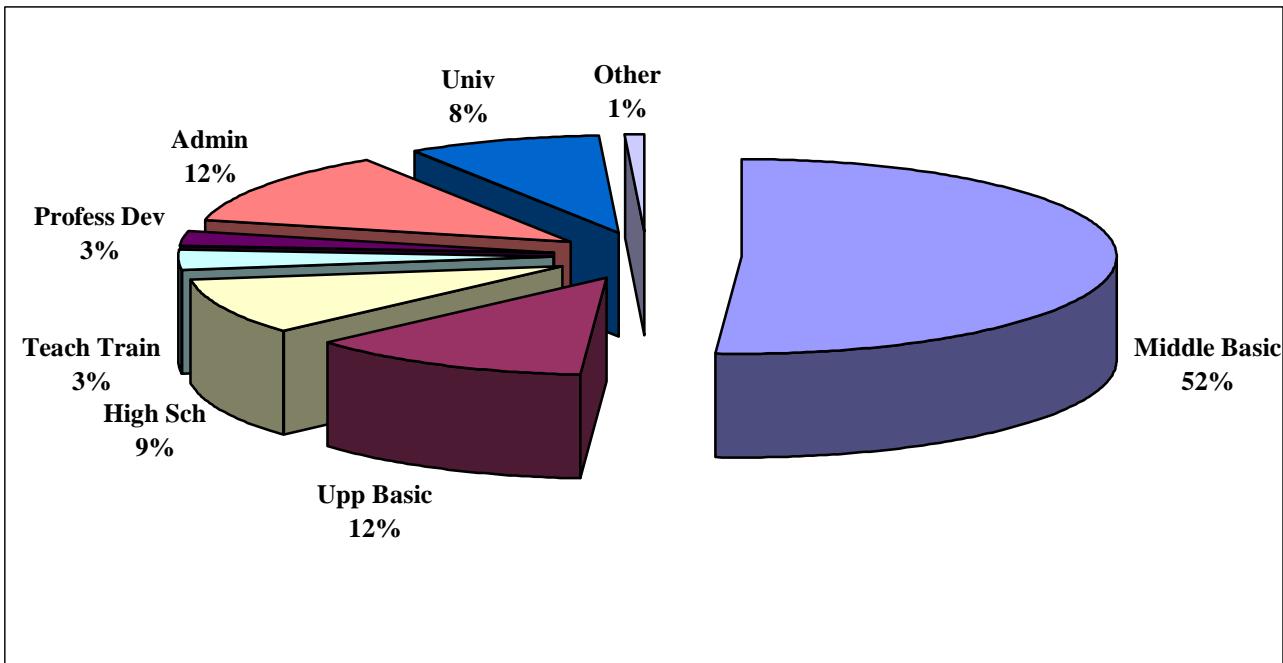
#### ***3.2. Financing the Sector Plan***

The total budget for the strategy period covering all critical areas of the sector is K5, 249,399 million of which K3, 735,465 million representing 71% will be financed from domestic resources. The remaining amount of K1, 513,934 million (29%) is expected to be externally financed through grants and loans. Domestic resources projections are based on the previous 7 years funding trends and commitments while external funding is only based on the pledges already made. There is a stronger possibility that both Government and its co-operating partners might allocate higher amounts than what was used to make the projections. This is plausible in the sense that Zambia's public resource allocation to education is among the very least in Sub-Saharan Africa, and there are positive signs that the government will progressively increase allocation to education in line with the sub-regional and international practices.

The total resource allocation has been disaggregated by year, programme and sub-sector for both recurrent and capital components. Although the Ministry's preferred mode of funding is that of sector pooling as reflected in the memorandum of understanding, external funding will only be allocated to mutually agreed areas based on the Ministry's outlined priorities.

#### ***Recurrent Expenditure Allocation***

The total recurrent expenditure projected for the sector plan for the period of 2003 – 2007 will be 3,847,931,000,000 ZMK at 2001 constant prices, and 52% of which will go to the middle basic level. while the upper basic level will as well get 12%. High school will get 9%, university 8% while professional development and teacher education will receive 3% each. Administration at all levels will get 12% Although these projections have been made based on past GRZ financing practices and co-operating partner pledges of 2002, there might either be negative or positive shifts in the overall available resources.

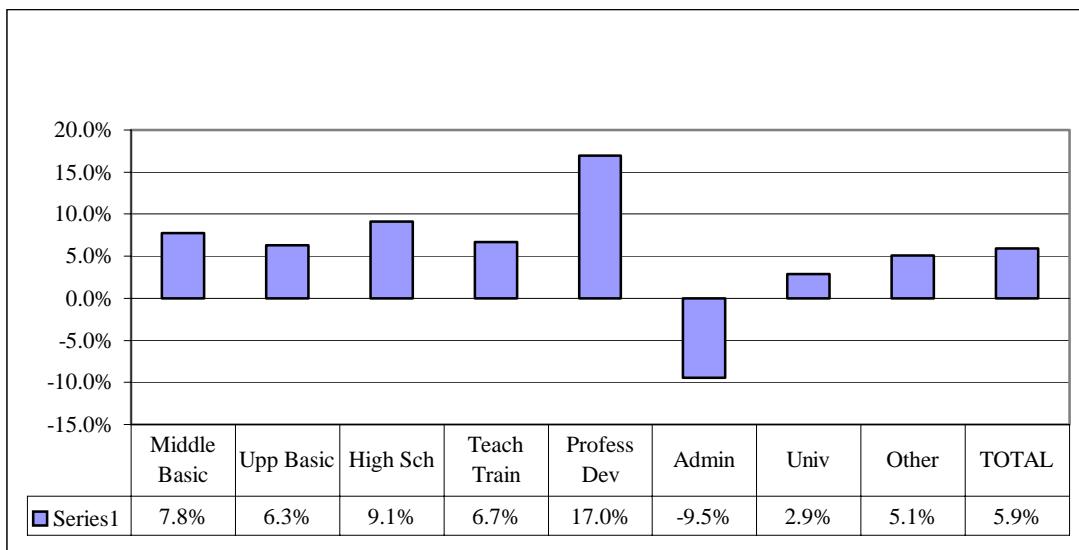
**Table 14 Recurrent Costs (2003 - 2007)**

The overall expenditure by level has been projected to increase in all sub-sectors in real terms. However the projected proportionate increases will vary between the two time-periods (2003 and 2007) across sectors due to two main factors:

- Major policy shifts to address demands of the time; and
- Past practices that led to the creation of a backlog in some critical areas

The declaration of free Middle Basic Education (Grade 1 to 7) in 2002 placed on the central Government imperative financial obligations such as the provision of adequate teaching and learning requisites to all schools as well as the expansion of education infrastructure. This will subsequently increase demand at the upper basic level. The sharing of facilities between middle basic and upper basic might reduce the resulting investment pressure at the upper basic.

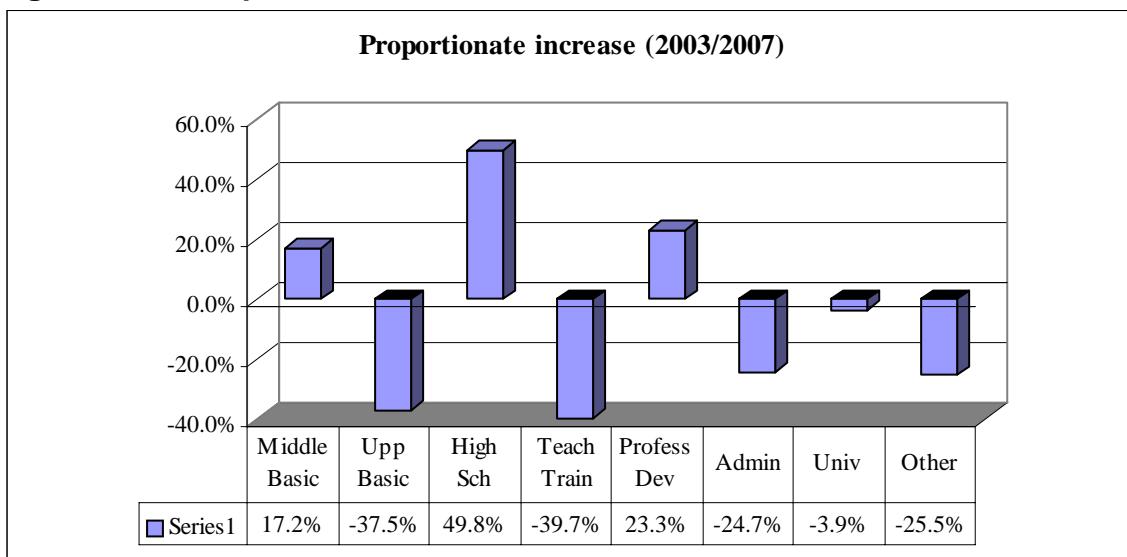
The growth in allocations by sub-sector are based on the macro-economic projection assumptions that places the average GDP growth rate at 4% to 5% during the sector plan period, and further assumes that allocation to education would remain constant or only change upwards to get to the levels of international norms. It should further be noted that the reflected financing gap could significantly be reduced if allocations to education were raised to the sub-regional average levels.

**Figure 8 Recurrent and Capital Costs Changes Between 2003 and 2007****Changes in Resource Allocation by sub-sector**

It is projected that allocation to all the sub-sectors being covered by the Ministry of Education, with the exception of administration will increase in real terms by 5.9% on the average between 2003 and 2007 with the highest (17.0%) being in professional teacher development. This reflects the emphasis now being placed on quality. The next highest increase will be high school followed by middle basic.

**Changes in Proportionate Allocation by sub-sector**

There will be major proportionate shifts of allocations between the same periods across sectors with the highest shifts being at middle basic and high school levels by 17.2% and 49% in the positive respectively, while professional teacher development will have a 23.3% positive change. On the other hand, teacher training will have a negative shift of 39.7% as from this year a surplus of teachers will be produced. The upper basic and administration/support sectors will also experience major reductions in the proportionate allocations of 37.5% and 24.7% respectively. Investments in middle basic affect upper basic positively, especially in infrastructure developments, as they will be in the same location. The proportion going to university education will shift marginally by 3.9% in the negative.

**Figure 9 Proportionate Increase Between 2003 and 2007**

## Summary of Cost Projections for Major Recurrent Costs

The chronic under-funding of the education sector in past 12 years led to major funding shifts resulting in reduced allocation of resources to the non-salary related recurrent expenditures. This greatly contributed to undermining the quality of education provision especially at the middle basic, upper basic and high school levels. Salaries actually assumed the status of “non discretionary” funding. In 2001, 70.6% of the recurrent expenditure went to salaries while only 6.3% was spent on teaching and learning supplies for the middle basic level. The picture was somewhat similar for the upper basic with 66.2% being devoted to salaries and 1.7% to teaching and learning materials. While 54.6% of the recurrent budget was spent on salaries for high schools, available expenditure distribution indicate that there were no public funds spent on teaching and learning materials for high schools.

The sector strategy shows investments projections in education materials that will shift recurrent expenditure allocation proportions from the 2001 baseline so that other critical areas that enhance quality such as the provision of teaching and learning materials are not neglected. . The proportion of personal emoluments for the middle basic level will reduce to 50.2% while that of education materials will increase by 2.6 times to 16.2%. The same pattern has been projected for upper basic where the proportion of personal emoluments will reduce to 56.3% while allocation to teaching and learning materials has been projected to increase by 3.4 times to 5.7%. At high school, the proportion of personal emoluments will be reduced to 48.2% while allocation to teaching and learning materials will be increased from almost nothing to about 3%.

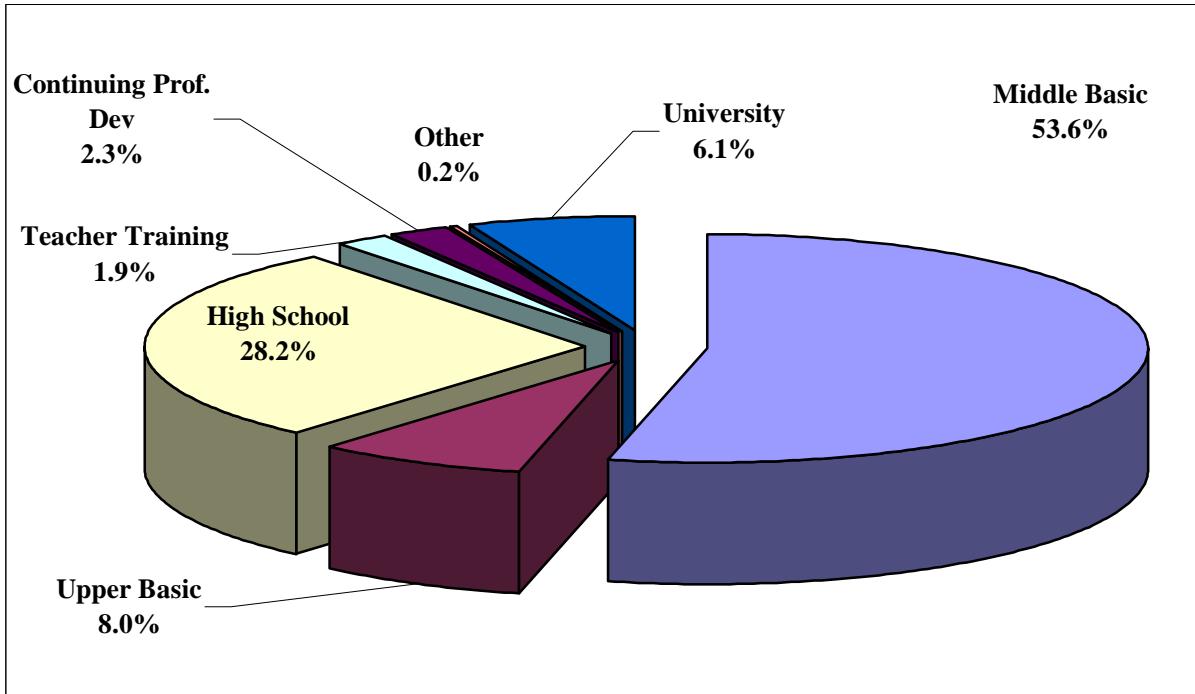
Another critical area under major recurrent expenditures where shifts are expected is for special programmes that cover HIV/AIDs, equity and gender, school health and nutrition, bursaries for the vulnerable groups and children with special needs. It is projected that expenditures for special programmes from the 2001 figures will approximately increase by 2 times at middle basic, 3 times at upper basic and 22 times for high schools respectively. It is also worth noting that the shift in the proportions of the major recurrent expenditure in the area of teaching and learning materials including special programmes are to be effected at the commencement of the sector plan in 2003 and sustained thereafter.

**Table 15 Recurrent Cost Projections in Millions of Kwacha at 2001 Constant Prices**

	2001	2002	2003	2004	2005	2006	2007	Total
Middle Basic	193,730	239,790	281,257	291,508	303,914	317,578	335,928	1,963,705
Upper Basic	51,367	63,980	68,010	69,597	71,944	74,070	76,916	475,884
High School	36,977	45,305	49,966	52,435	55,978	58,263	60,780	359,704
Teacher Training	15,459	17,818	17,862	17,907	18,428	19,190	20,195	126,859
Profess Dev	10,580	10,493	13,380	14,664	15,921	17,105	18,270	100,413
Administration	62,814	48,930	78,593	69,946	70,551	71,166	71,789	473,789
University	37,504	44,100	44,982	45,882	46,799	47,735	48,690	315,692
Other	4,363	4,363	4,450	4,539	4,630	4,723	4,817	31,885
TOT RECURRENT	412,794	474,779	558,500	566,478	588,165	609,830	637,385	3,847,931

## Capital Allocation

On the overall the middle basic level will have the highest capital allocation of approximately 53.6% spread across the five-year period followed by high school. Although the upper basic allocation of 8% appears to be small, this level will also directly benefit from the capital investments that will be made at middle basic schools, as they will be upgraded to the status of upper basic.

**Figure 10 Capital Allocation by Sub-sector**

Although Universities are given direct grants for use at their discretion, it has been felt prudent that of the resources available for infrastructure to the Ministry, 6% should be allocated to the Great East Road Campus and the Copperbelt Universities for civil works under the Directorate of Planning and Information within the infrastructure programme. The proportions will be determined in consultations with the two Universities.

**Table 16 Annual Capital Allocation in Millions of Kwacha at 2001 Constant Prices**

	2001	2002	2003	2004	2005	2006	2007	Total
Middle Basic	21,366	57,286	71,555	178,888	239,592	178,888	46,628	794,202
Upper Basic	36,777	24,269	10,346	25,864	34,641	25,864	6,742	164,503
High School	5,425	29,008	37,662	94,156	115,039	94,156	35,610	411,056
Teacher Training	8,488	14,405	2,588	6,471	8,636	6,471	1,718	48,777
Profess Dev	-	2,479	3,053	7,632	10,684	7,632	1,526	33,005
Administration	-	-	-	-	-	-	-	-
University	-	6,553	8,132	20,331	26,523	20,331	6,007	87,877
Other	-	-	229	572	800	572	114	2,287
<b>Total Capital</b>	<b>72,056</b>	<b>134,000</b>	<b>133,565</b>	<b>333,913</b>	<b>435,916</b>	<b>333,913</b>	<b>98,345</b>	<b>1,541,707</b>

### 3.4 Funding gap analysis (million Kwacha)

The financing gap varies substantially from year to year, with the largest gap being in the middle years. This is due to the planned pattern of construction activities. This calls for an increase in flexibility on the part of the external partners so that their support is weighted more heavily to the middle years. If more pledges for funding are made by external co-operating partners, and if GRZ increases its allocation to education, the financing gap is bound to be reduced significantly or altogether eliminated.

It is estimated that the total funding gap for the five year period is 884,195 million ZMK with an annual gap of K155,872 million.

**Table 17 Funding Gap Analysis (Million Kwacha, Current Prices)**

	Actual 2001	Estimate 2002	Projected 2003	Projected				<b>Total 2003-07</b>
				2004	2005	2006	2007	
<b>Expenditure</b>	484,850	713,519	899,551	1,244,067	1,471,567	1,396,807	1,121,602	6,133,595
<i>Recurrent</i>	412,794	556,465	725,942	782,701	845,172	902,592	971,678	4,228,085
<i>Capital</i>	72,056	157,054	173,609	461,366	626,395	494,215	149,924	1,905,509
<b>Resources</b>	484,850	662,480	858,647	1,031,010	1,055,705	1,118,537	1,185,499	5,249,399
<i>Domestic</i>	353,472	464,000	601,047	699,442	756,516	810,380	868,079	3,735,465
<i>External</i>	131,377	198,480	257,600	331,568	299,189	308,157	317,420	1,513,934
<b>Funding Gap</b>	<b>0</b>	<b>51,039</b>	<b>40,904</b>	<b>213,057</b>	<b>415,862</b>	<b>278,270</b>	<b>(63,897)</b>	<b>884,195</b>
<b>Funding Gap (US\$ 000,000)</b>	<b>0.0</b>	<b>12.3</b>	<b>8.9</b>	<b>43.7</b>	<b>82.0</b>	<b>53.3</b>	<b>-11.9</b>	<b>176</b>

\* 'Other' includes: Curriculum, Skills training; Adult Literacy; Continuing Education; Grants(Pre-school association, JETS, Subject Ass., NSC, TAB, UNESCO, NLS);

#### Memo Item

GDP Deflator							
2001=100)	100	117	130	138	144	148	152

As can be noted in the table above, the sector plan is organised in such a way that there will be more investments in the middle third period than the other two-third periods of the beginning and ending. Initial efforts will also focus on capacity building and will accelerate speedily to clear the backlog leading to the achievement of most of the set targets.

#### Financing the Annual Work Plans and Budget

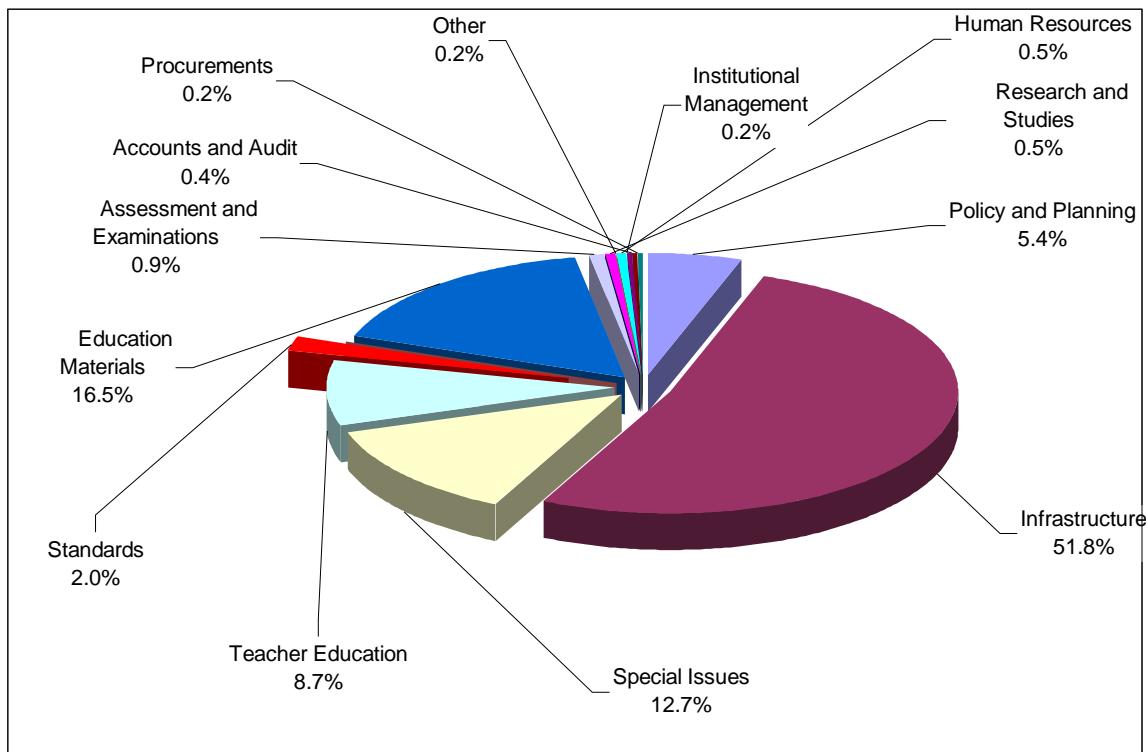
The AWPB will be financed by the Ministry and its co-operating partners on an annual basis within the broad framework of the National Education Sector Implementation Framework. Three quarters of the budget will be financed from domestic resources while the other quarter will be financed from external funding through grants and loans. The sector wide allocation to education from domestic will be within the context of the Poverty Reduction Strategy and the Transition National Development Plan.

Personal emoluments of the teaching and non-teaching staff will be financed from domestic resources based on the establishment registered in the restructured Ministry for which Treasury authority has been given. Personal emoluments also include other expenditure items such as travel on leave, long service bonus, pension/NAPSA contributions and housing allowances. (The latter is only for officers who did not benefit from the sale of GRZ pool houses, council houses, or obtained a loan to build/purchase a house, and are not staying in an institutional house). Personal emoluments also include other salary related allowances such as retention allowance, double shift allowance, extra duty allowance, and rural hardship allowance.

For the 2003 personal emolument budget, the September 2002 payroll was used side by side with the restructuring document in order to ensure that positions not appearing in the restructuring document are not omitted on 2003 payroll, as they will not have been laid off completely.

External financing will mainly be targeted towards the agreed 12 priority programmes<sup>3</sup> within the sector plan. About half (51.8%) of external funding will be allocated to infrastructure programmes, followed by education materials with 16.5%, while special issues (School Health and Nutrition, HIV/AIDS, and Gender and Equity) will take 12.7%. Further, of the total infrastructure budget, 53.6% will be allocated to the middle basic level as already illustrated under capital allocation.

**Figure 11 Distribution of External Resources Across Priority 12 Programmes**



The AWPB will be developed every year prior to the year of implementation following an elaborate process being developed by the Directorate of Planning and Information taking the form of rolling plans based on past experience with inputs from all levels of implementation and stakeholders.

**Table 18 Summary of Milestone Targets**

	Baseline 2001		Target 2007	
	Indicator	Absolute number	Indicator	Absolute number
<b>3.3 Rates and Ratios</b>				
<b>3.4</b>				
Completion Rate (Grades 1 – 7)	64	1,810,864	86%	2,302,386
Completion Rate (Grades 8 – 9)	41%	197,017	59%	325,581
Completion Rate (Grades 10 – 12)	18%	121,056	26%	207,843
Enrolment ratio of CSEN (Grades 1 – 7)	1%		5%	
Net Admission Rate (Age 7 at Grade 1)	37.1%		95%	
Transition Rates Rate (Grade 7 to 8)	53%		70%	

<sup>3</sup> Curriculum and Assessment has been broken down into Assessments/Examinations, and Education Materials, While Research and studies covers the University.

Transition Rates Rate (Grade 9 to 10)	44%	50%
GER Enrolment Rate (Grades 1 – 7)	97%	100%
GER Enrolment Rate (Grades 8 – 9)	42%	62%
GER Enrolment Rate (Grades 10 – 12)	18%	28%
Teacher Training Pre-service	10,136	11,683
Continuing Professional Development	49,420	54,792
University <i>Regular</i>	8,965	12,103
Pupil: Teacher Ratio (Grades 1 – 7)	52:1	45:1
Pupil: Teacher Ratio (Grades 1 – 4)	-	45:1
Pupil: Teacher Ratio (Grades 5 – 7)	-	45:1
Pupil: Teacher Ratio (Grades 8 – 9)	21:1	36:1
Pupil: Teacher Ratio (Grades 10 – 12)	19:1	28:1
Pupil:Non-Teaching Staff Ratio		200:1
Teacher double shifting	43%	43%
Pupil:Book Ratio	-	2:1
Pupil: Class Ratio (Grades 1 – 7)	36:1	45:1
Pupil: Class Ratio (Grades 8 – 9)	40:1	45:1
Pupil: Class Ratio (Grades 10 – 12)	44:1	42:1
Classes: Classrooms Ratio (Grades 1 – 4)		2:1
Classes: Classrooms Ratio (Grades 5 – 7)		1:1
Classes: Classrooms Ratio (Grades 8 – 9)		1:1
Classes: Classrooms Ratio (Grades 10 – 12)		1:1
Teachers needed (Grades 1 – 7)	35,603	38,414
Teachers needed (Grades 8 – 9)	8,575	9,553
Teachers needed (Grades 10 – 12)	5,243	6,825
Non-Teaching Staff Needed		10,814
Proportion of Pupils reaching the minimum levels Learning Achievement in Numeracy	29%	70%
Proportion of Pupils reaching the Minimum levels Learning Achievement in Reading In English	29%	70%

## Appendice 1

**MINISTRY OF EDUCATION SECTOR PLAN LOGFRAME**

<b>NARRATIVE SUMMARY</b>	<b>INDICATORS OF ACHIEVEMENT</b>	<b>MEANS OF VERIFICATION</b>	<b>RISKS/ASSUMPTIONS</b>
<b>Goal</b>  Increased skills for poverty reduction, employment and economic growth	1. Improved economic indicators 2. Improved social indicators 3. Increased formal/informal sector activity	1. PRSP Monitoring 2. Household Surveys 3. Economic surveys	1. GRZ is able to maintain economic growth of 4%-5% pa 2. GRZ is able to implement economic and institutional reforms
<b>Purpose</b>  Equitable access to relevant quality education and training that incorporates HIV/AIDs interventions	1. 100% basic school net enrolment by 2015 2. 60% high school net enrolment by 2015 3. Learning achievement for grades 1-9 improved to 70% by 2015 4. Learning achievement for Grades 10-12 improved to 75% by 2015	1. Household Surveys Annual School Census National Assessment results SACMEQ	1. Current GRZ Budgetary allocations are maintained and increased 2. CPs maintain sufficient external funding to address the financing gap
<b>PROGRAMME OUTPUTS</b>			
<b>1. ACCESS/EQUITY</b> <b>Basic Education</b>  <b>1.1</b> Free basic education for all children	<p><i>1.1.1</i> Net enrolment of all school age children increased from 68.5% to 80% for Grades 1-7 and from 17.5% to 35% for Grades 8-9 by 2007.</p> <p><i>1.1.2</i> Gross enrolment increased from 101% to 110% for Grades 1-7, and from 46% to 62% for grades 8 to 9 by 2007</p> <p><i>1.1.3</i> Progression rates from Grade 7 to Grades 8 increased from 49% to 70% by 2007</p> <p><i>1.1.4</i> Raise the completion rates from to 89% by 2007</p> <p><b><i>1.1.5 Enrolment of CSEN increased from 1% to 5% of total enrolment by 2007.</i></b></p>	<p>1. Household Surveys</p> <p>2. <b>Annual School Census, MoE Statistics</b></p>	1. Increased Budgetary allocation by GRZ.  2. Long-term donor funding is sustained  3. HIPC funds provided and used effectively  4. Stakeholder support for education sector  5. Population growth is stabilised at 2.7% net p.a.  6. Communities remain supportive of education  7. Enrolment growth rate of 3.6% p.a

NARRATIVE SUMMARY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS/ASSUMPTIONS
	<p>1.1.6 Retention and progression of the girl-child from Grades 5-9 increased from 82% to 100% by 2007</p> <p>1.1.7 Completion rates increased from 65% to 86% for Grades 1-7 and from 45% to 59% for Grades 8 to 9 by 2007</p>	3. <b>EB Reports, School Surveys MoE Statistics</b>	sustained or improved
<b>High School Education</b> <p>1.2 Expanded access and retention in high schools, especially for girls, the poor and CSEN</p> <p>.</p>	<p>1.1.8 Mechanisms established by 2004 for more provision of quality basic education to out-of-school children and other vulnerable groups</p> <p><b>1.2.1 <i>Net enrolment of all school age children increased from 9.4% to 25% by 2007</i></b></p> <p><b>1.2.2 <i>Gross enrolment rate increased from 20% to 28% by 2007</i></b></p> <p><b>1.2.3 <i>Progression rates from Grade 9 to Grades 10 increased from 26% to 35% by 2007</i></b></p> <p><b>1.2.4 <i>Policy developed on reserving 35% of boarding places in rural schools for those from surrounding rural districts by end of 2003</i></b></p> <p><b>1.2.5 <i>Bursary provision for the poor, girls and orphans increased from 8,3% to 20% by 2007</i></b></p> <p>1.2.6 Open and distance learning system re-organised and improved by 2005</p>	<p>4. <b>Annual Review Report Studies, Inspectors Reports</b></p> <p>5. Annual Review Report,</p> <p>6. School Reports</p> <p>7. Infrastructure Reports, Building Inspection reports</p>	

NARRATIVE SUMMARY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS/ASSUMPTIONS
<b>Tertiary Education</b>  1.3 Increased access to tertiary education especially for women, poor and those with special education needs	1.3.1 Affirmative policies of admission and funding established by 2003.	8. College Reports, Teacher Education Reports	
<b>2. QUALITY</b>  <b>Basic Education</b>  2.1 Improved learning achievement in basic schools	<p>1.3.2 <i>Distance education and open learning opportunities for adults expanded by 2006.</i></p> <p>1.3.3 Existing infrastructure, particularly hostel accommodation, at the two universities expanded and rehabilitated by 2005.</p> <p>1.3.4 Existing infrastructure at the Colleges of Education expanded and rehabilitated in line with demand by 2007.</p> <p><b>2.1.1 <i>Learning achievement levels in literacy and numeracy improved from 34% to 50% by 2007</i></b></p> <p><b>2.1.2 <i>Pupil: textbook ratio of 2:1 achieved for all subjects by 2007</i></b></p> <p>2.1.3 Mechanism for recruitment and deployment of teachers to rural areas to achieve overall pupil teacher ratio of 64:1 for Grades 1-4 and 45:1 for Grades 5-9 by 2007</p> <p>2.1.4 All basic teachers trained to deliver BECF by end of 2005</p>	<p>1. National assessment, SACMEQ, Studies, ECZ reports</p> <p>2. Procurement &amp; Supplies Reports School Surveys &amp; DEB Surveys</p> <p>3. Standards Officers' (Inspectors') Reports School Surveys, DEB reports</p> <p>4. Teacher Education Reports, TRC Reports,</p> <p>5. Annual Review Report, Annual School Census</p>	<p>1. Policy on decentralised procurement implemented</p> <p>2. Textbook tracking studies implemented</p> <p>3. ECZ and National Assessment Surveys and Records sustained</p> <p>4. Regular inspection by standards officers maintained</p>
<b>High School Education</b>  2.2 Improved skills, knowledge and learning achievement in high schools	2.2.1 National performance at school certificate improved from 66% to 72% by 2007		

NARRATIVE SUMMARY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS/ASSUMPTIONS
	2.2.2 Pupil: textbook ratio of 5:1 achieved in all subjects by 2006	6. University Dept. Academic Reports	5. Curriculum implemented fully
<b>Tertiary Education</b>  2.3 More efficient and quality college and university education	2.2.3 Pupil: Teacher ratio maintained at 27:1 by 2007 2.2.4 More relevant curriculum introduced by 2004 2.2.5 All high school teachers trained to deliver the new curriculum by end of 2005 2.3.1 Sufficient relevant learning and teaching materials procured by 2007. 2.3.2 Production of basic and high school teachers expanded and regulated in line with pupil enrolment growth rates and new curriculum framework by 2004. 2.3.3 ZATEC programme reviewed by 2004 2.3.4 CPD, particularly the Primary Diploma by distance expanded by 2005 2.3.5 Co ordination and validation of distance learning programmes established by 2003 2.3.6 Graduate teacher education programmes at Nkrumah Teacher's College developed by 2004 2.3.7 Mechanisms of continuous curriculum review at universities put in place by 2004 2.3.8 A plan for research activities over the next five years developed by 2003.	7. Curriculum Review 8. University Research Reports	6. Improved Budgetary Allocation  7. Implementation of incentives for teachers,  8. Construction/Rehabilitation of schools, colleges and universities takes place

NARRATIVE SUMMARY	INDICATORS OF ACHIEVEMENT	MEANS OF VERIFICATION	RISKS/ASSUMPTIONS
<b>3. ADMINISTRATION, FINANCING &amp; MANAGEMENT</b> <b>Basic, High School and Tertiary Education</b>  3.1 Effective and adequately financed decentralised education delivery system	<p>.            3.1.1 All education boards trained in education management, development planning and financial management by 2004            3.1.2 Measures for sound university administration, financial management and planning put in place by 2004            3.1.3 Mechanism for replacement of teachers, lecturers, and officials who are absent through sickness or death established by 2004            3.1.4 Education expenditure projected as follows:  <b>Admin.</b> : From 10% in 2002 to 11% in 2007  <b>Basic</b> : From 64% in 2002 to 65% in 2007  <b>High School</b>: From 10% in 2002 to 10% in 2007  <b>Colleges</b> : From 4% in 2002 to 3% in 2007  <b>CPD</b> : From 2% in 2002 to 3% in 2007  <b>Universities</b> : From 9% in 2002 to 8% in 2007  <b>Other</b> : From 1% in 2007 to 1% in 2007</p>	<p>1. Education Board Reports, HR Reports            2. Financial Reports            3. School Surveys , Standards Officers Reports, HR Reports            4. Annual Review Report, Financial Reports</p>	<p>1. Policy on teacher replacement is implemented            2. Decentralisation policy is fully carried out and sustained            3. Sufficient funds allocated by GRZ for regular quarterly disbursements            4. Education boards develop and maintain the capacity to handle finance and management</p>
<b>4. HIV/AIDS</b> <b>Basic, High School and Tertiary</b>  4.1 Reduction of HIV/AIDs infection	4.1.1 Information on prevention of HIV/AIDs infection available to all pupils, teachers, college/university students, lecturers and education officials by end of 2003	1. School,college and university Surveys, Household Surveys	<p>1. GRZ and MoE commitment to HIV/AIDS issues is sustained            2. Behaviour change is able to take place</p>

<b>NARRATIVE SUMMARY</b>	<b>INDICATORS OF ACHIEVEMENT</b>	<b>MEANS OF VERIFICATION</b>	<b>RISKS/ASSUMPTIONS</b>
	<p>4.1.2 Support and protection measures implemented in every school, college, university and education office by 2004</p> <p>4.1.3 Support systems and workforce policies for those infected and affected in the education system established by 2003</p> <p>4.1.4 School health and nutrition policies and plans implemented in all schools by 2007</p>	<p>2. HIV/AIDS Unit Reports, NAC Reports, Studies</p> <p>3. Annual School Census, EB Reports, Standards Officers Reports</p> <p>4. SHN Reports, WFP Reports</p>	<p>3. <i>Supplies of materials, drugs, condoms continue to be available</i></p> <p>4. Sufficient funds allocated for implementation of funds.</p>



**REPORT ON THE SECOND CONSULTATIVE MEETING OF THE ZAMBIA  
FORUM FOR HEALTH RESEARCH  
(ZAMFOHR).**

**HELD ON 26<sup>TH</sup> JULY 2006  
AT LILAYI LODGE, LUSAKA.**

## **INTRODUCTION**

This meeting was a follow-up to the first consultative meeting on the establishment of ZAMFOHR that was held at Protea Hotel from 31<sup>st</sup> March to 1<sup>st</sup> April 2006. This follow-up meeting was held at Lilayi Lodge on 26<sup>th</sup> July 2006. There were eighteen participants, drawn from various organisations (government and non governmental). The list of participants is attached in the annex.

### **1. MORNING SESSION**

The meeting started at 09:20 hours with opening remarks made by Prof. Neil Nkanza, the chairman of the day's meeting. He welcomed the participants present. The chairman called upon Dr. Kasonde to give a review of what had transpired at the first consultative meeting.

#### **1.1. Presentations**

The first presentation was made by Dr. Joseph Kasonde. His presentation mainly outlined what ZAMFOHR is, its aspirations, vision, mission, strategies and objectives.

The second presentation was made by Mr. Sandy Campbell who spoke about the broader "knowledge system" and how ZAMFOHR might act to tie together the (currently) separate spheres of knowledge production, management, translation, and utilisation.

*(Note: Presentations attached in the Annex)*

#### **1.2. Comments from Participants.**

After the two presentations, a discussion session touched on the following aspects:

- *Funding*: several participants noted that government should fund ZAMFOHR, particularly its elements that approximate a National Health Research System; one participant added that government funding would – particularly if accompanied by advocacy – attract further funding.
- *Focus*: on which areas would ZAMFOHR focus? On which research priorities could ZAMFOHR add the most immediate value?
- *Adding value to existing initiatives*: participants discussed the small but significant ways by which ZAMFOHR could form linkages with and add value to institutions such as the Tropical Diseases Research Centre (TDRC), National Malaria Control Centre (NMCC), Macha Malaria Research Centre, the National Health Research Advisory Council and others in order to share knowledge on research activities in the country.
- *Human Rights Resource survey*: given the government's desire to conduct this survey, how could ZAMFOHR assist in the planning and participation?

### **1.3. Group Discussions**

Participants were divided into three groups. Dr. Kasonde emphasised that the discussions should focus on substance and action – particularly on the way forward for ZAMFOHR.

### **2. AFTERNOON SESSION**

Group presentations and plenary discussion began immediately after lunch, at 14:00hrs.

From the group discussions the following issues were raised:

#### **2.1 Resource Centre**

- Given the MoH’s desire for a resource centre, and ZAMFOHR’s ambitions of providing resources to the researcher and research-user community, how can these two centres complement each other? Is the resource centre the link or “receptor site” inside the MoH with which ZAMFOHR can intersect? There was general agreement that there was a strong need to outline the key complementarities of these resource centres. This should inform the MoU between the MoH and ZAMFOHR. Secondly, MoH staff indicated that CDC had indicated its willingness to fund a resource centre inside the MoH (specifically for two staff members) and that ZAMFOHR could assist in writing the proposal and then provide technical assistance to these staff.
- Some participants argued that there should be only one resource centre. Other participants were of the view that there would be value in having two resource centers: one for MoH and the other belonging to ZAMFOHR. MoH can gather information that is relevant to the ministry while ZAMFOHR can gather countrywide and global information. Since access to information in MoH is restricted, ZAMFOHR’s could be easily accessed by the general public.

#### **2.2 National Health Research Advisory Council (NHRAC)**

- This Advisory Council meets quarterly and advises the MoH on research results and on setting research priorities. The intersection with ZAMFOHR is thus crucial. But how should ZAMFOHR support the NHRAC and add value to it? It was agreed that ZAMFOHR’s Executive Director should sit on the Council; and it was discussed that the NHRAC, in order to function efficiently, required the services of a Secretariat to take care of small but essential details such as the taking of minutes. Could ZAMFOHR offer NHRAC this type of service? Could the ZAMFOHR-assisted resource centre in the MoH offer this type of service?
- How could ZAMFOHR help to carry out the recommendations made by the NHRAC? A key failing of the NHRAC to date has been following-up on its own work. One of the participants noted that the current budget of the MoH is ZMK 1 billion; funding of this size perhaps necessitated the stewardship of ZAMFOHR

and NHRAC to help MoH review the budget and make recommendations for priority research.

- ZAMFOHR needs to interact with and perhaps lead the NHRAC's plans for a research conference, to be held in either December 2006 or January 2007. The theme is identified as knowledge translation. ZAMFOHR needs a comprehensive strategy for this conference as it is an ideal platform for the launch of ZAMFOHR: provision of keynote speaker; launch the methodology on institutional data collection; evaluate the meeting; systematic review training course/workshop before or after the conference; spur thinking/reflection on KM and KT by better integrating it into the program.

### **2.3 Relationship of ZAMFOHR with other institutions**

- It needs to be made explicit that ZAMFOHR is not in competition with other research institutions but is instead adding value to them. Risks of duplication need to be spelled out. Must similarly be explicit that ZAMFOHR is not doing research, is not seeking research funding, but is rather a facilitator designed to add value to research and research-using institutions. Thirdly, it needs to be clear about who owns ZAMFOHR, and who it serves and how.
- ZAMFOHR should not just manage research data but should also offer technical support to other institutions in managing research data. For instance – can ZAMFOHR design a “checklist” or methodology of unified KM data capture techniques for all institutions to use? If ZAMFOHR is to collect data, then institutions must present that data in a unified manner.
- ZAMFOHR should respect ownership of research. A lot of research data is collected in the country but dissemination is a problem therefore ZAMFOHR can help research institutions with research dissemination. ZAMFOHR can harness the possibility of working with provinces in the country so that information is disseminated quickly. ZAMFOHR should also use the internet to disseminate research information, while also building the capacity of researchers and research-users to use the internet.
- Participants stressed that ZAMFOHR should have a balance between local and global research. The organisation should also find a way of monitoring the quality of research it brings together, and puts across to the public. What quality check procedures will ZAMFOHR have in place?
- what is the role of the National Science and Technology Council in terms of mobilizing resources?

## **2.4 Knowledge Translation Tools**

- Participants suggested that one of the tools that can be used is a newsletter. A target group for the newsletter should be defined. The plenary suggested that a small group can be set up to come up with how exactly to produce the newsletter. This group should come up with how much it would cost to produce the newsletter, its format and its management. Participants were informed that funding for the newsletter is available through the MoH.
- How can ZAMFOHR add value to the MoH's year-end report on health statistics? Assist in the analysis of trends? Engage in a formal relationship with the MoH office of Statistics? This should be covered in the MoU
- ZAMFOHR needs to capture and present information on meetings abroad

## **2.5 ZAMFOHR Strategic Plan Issues**

- Plan needs to show how government has undertaken similar ZAMFOHR initiatives or more broadly in the area of research. Participants suggested that an exercise should be done to establish what MoH has done before in order to provide evidence for priority setting.
- Sustainability issues need to be addressed
- outline how ZAMFOHR can add value to existing initiatives like NHRAC, MoH, UNZA, etc.
- Better outline its organizational structure.

## **3.0 ACTION POINTS**

- develop an MoU with the Ministry of Health
- develop a ZAMFOHR logo
- begin scouting office accommodation
- hold a board meeting in September 2006 (of the interim board members) to nominate an Advisory Council who will in turn create an official board
- attend to final legal details of incorporating ZAMFOHR as a Zambian NGO.
- meet with the PS to determine which MoH staff will be on the ZAMFOHR Board, and which will attend the IdeaHealth/EVIPNet meeting in Thailand, Dec. 2006.
- assist the MoH re the CDC proposal for a Resource Centre
- explore the newsletter with the MoH

## **4.0 ZAMFOHR Governance Structure**

Participants were informed that currently there is a stand-in committee, but there was need for the board to appoint an Executive Director and also appoint other staff members

necessary to run the affairs of ZAMFOHR. Participants were asked if the existing structure was acceptable or if there was need to improve it. It was agreed that the structure was acceptable but there was need to review the composition of members in the structure with reference to the ZAMFOHR constitution. It was stressed that the issue of the structure should be concluded before ZAMFOHR starts operating as an entity. It was agreed that the board could appoint ad hoc committees when/if the need arises.

**The Board:** It was agreed that names of board members should be stated and be drawn from various government and non-governmental institutions including higher learning institutions. Participants observed that if there were only five board members a number of stakeholders would be left out. It was agreed that the number of board members should be increased to seven.

Since the board was not in place the plenary agreed that a stand-in board should be nominated and the following people were nominated to be board members:

1. Dr. T.J Ngulube (NGO)
2. Dr. E. Kafwembe (TDRC)
3. Dr. G Biemba (CHAZ)
4. Dr. Sekelani Banda (UNZA/SOM)
5. Dr. Mubiana Macwan'i (HSSP)
6. Prof. N. Nkanza (Nkanza Laboratories)
7. Dr. M. Maimbolwa (UTH)
8. Ministry of Health (refer to Permanent Secretary)
9. Ninth nomination to be discussed at the next board meeting.

There is need to appoint a director and chairman of the board.

**The Council:** Members to council was not defined and members thought the constitution should be reviewed in this area. Members were informed that ZAMFOHR has already been registered with the registrar of societies.

**Meetings:** Participants were of the view that ZAMFOHR should have regular meetings with other research institutions and that the Annual General Meeting (AGM) should be held once a year to avoid time wasting and resources. Some participants argued that too many meetings were a waste of time and resources. But other participants were of the view that these meetings are important and that policy makers can benefit from ideas presented at such meetings. It was further stated that ZAMFOHR can combine resources with other stakeholders to organise these meetings in order to save resources.

## **5.0 ZAMFOHR Launch**

Some participants suggested that the organisation can be launched at the December, 2006 National Health Research Advisory Committee (NHRAC) conference, but this was subject to approval by NHRAC members. If ZAMFOHR is given the opportunity to

launch itself at this conference, a sub ad hoc committee should be put in place to look at how ZAMFOHR can sell itself at the launch. This committee can look at issues such as how researchers can contribute to ZAMFOHR and whether ZAMFOHR should focus on adding value to existing processes or launch new ideas.

## **6.0 Closing Remarks**

The meeting was closed at 17:00 hrs. The Chairperson thanked everyone for attending and covering a lot of ground. He thanked the Churches Health Association of Zambia for organizing the meeting.

Reported by:

**Rhoza Chiwambo Shonga – MPH II/SOM**

**Linda Nyangu Chonya – MPH II/SOM**

**ANNEX A****1. LIST OF PARTICIPANTS**

**PARTICIPANTS LIST FOR THE SECOND ZAMFOHR CONSULTATIVE MEETING ON HEALTH RESEARCH**  
**Lilayi Lodge, 26<sup>th</sup> July, 2006**

<b>N o.</b>	<b>Name</b>	<b>Designation</b>	<b>Email address</b>	<b>Phone/Cell No.</b>	<b>Organisation</b>
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		Trust			
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## Zambia: Taking forward action on Human Resources for Health with DFID/OGAC and other partners.

Jim Campbell & Margaret Caffrey  
3<sup>rd</sup> March 2009



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## Abbreviations and Acronyms

AHPSR	Alliance for Health Policy and Systems Research
ART	Antiretroviral Treatment
ARVs	Antiretrovirals
CAP	Country Assistance Plan ( <i>for DFID</i> )
CBS	Community Based Services
CCM	Country Coordination Mechanism
CDC	Centres for Disease Control and Prevention
CHAZ	Churches Health Association of Zambia
CHESSORE	Centre for Health Science and Social Research
CHW	Community Health Worker
CIDA	Canadian International Development Agency
CoAg	Cooperation Agreement
COP	Country Operational Plan ( <i>for PEPFAR</i> )
COPRS	Country Operational Plan Reporting System
CP(s)	Cooperating Partner(s)
DDCC	District Development Coordinating Committee
DFID	Department for International Development
DHMT	District Health Management Team
FBO	Faith Based Organisation
GAVI	Global Alliance for Vaccines and Immunisation
GBS	General Budget Support
GFATM	Global Fund for AIDS, TB and Malaria (Global Fund)
GHIN	Global HIV/AIDS Initiatives Network
GHRI	Global Health Research Initiative
GHWA	Global Health Workforce Alliance
GNC	General Nursing Council
GRZ	Government of the Republic of Zambia
HMN	Health Metrics Network
HRH	Human Resources for Health
HRD	Human Resource Development
HRIS	Human Resource Information System
HRM	Human Resource Management
HRP	Human Resource Planning
HRH- AF	Human Resources for Health Action Framework
HRHSP	Human Resources for Health Strategic Plan (2006-10)
HSS	Health Systems Strengthening
HSSP	Health Services and Systems Programme ( <i>for PEPFAR</i> )
IHP	International Health Partnership
INGO	International Non-Governmental Organisation
IST	In-Service Training
JICA	Japan International Cooperation Agency
MDD	Management Development Division
MDG	Millennium Development Goals

M&E	Monitoring and Evaluation
MMR	Maternal Mortality Ratio (/100,000)
MOE	Ministry of Education
MOFNP	Ministry of Finance and National Planning
MoH	Ministry of Health
MoU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MTR	Mid Term Review
NAC	National AIDS Council
NAC SF	National AIDS Council Strategic Framework
NGO	Non-Governmental Organisation
NHSP	National Health Sector Plan (2006-10)
NHRAC	National Health Research Advisory Committee
OGAC	Office of the US Global Aids Coordinator
PE	Personnel Emoluments
PEPFAR	President's Emergency Programme for AIDS Relief
PHC	Primary Health Care
PHO	Provincial Health office
PMEC	Payroll Management and Establishment Control System
PSMD	Public Service Management Division
PST	Pre-Service Training
SCMS	Supply Chain Management System
SBS	Sector Budget Support
SIDA	Swedish International Development Agency
SOM	School of Medicine
SWAp	Sector Wide Approach
TA	Technical Assistance
TBA	Traditional Birth Attendant
TDRC	Tropical Disease Research Centre
TPC	Treatment, Prevention and Care
TOR	Terms of Reference
TWG	Technical Working Group
USAID	United States Agency for International Development
USG	United States Government
UTH	University Teaching Hospital
WB	World Bank
WHO	World Health Organisation
ZDHS	Zambia Demography and Health Survey
ZAMFOHR	Zambia Forum for Health Research
ZHWO	Zambia Health Workforce Observatory
ZHWRS	Zambia Health Workers Retention Scheme
ZMC	Zambia Medical Council

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## Table of Contents

<b>EXECUTIVE SUMMARY .....</b>	<b>7</b>
<b>1 BACKGROUND / INTRODUCTION.....</b>	<b>15</b>
<b>2 NATIONAL POLICY AND PLANNING FRAMEWORKS .....</b>	<b>16</b>
2.1 NATIONAL HRH PLANS AND STRATEGIES.....	24
<b>3 PEPFAR AND DFID – SUPPORTING ACTIONS. ....</b>	<b>35</b>
3.1 PEPFAR .....	35
3.2 DFID.....	44
3.3 COOPERATING PARTNERS.....	46
<b>4 DISCUSSION AND RECOMMENDATIONS .....</b>	<b>50</b>
4.1 NATIONAL PLANS AND POLICIES.....	50
4.2 COOPERATING PARTNERS – SUPPORTING ACTIONS .....	56
4.3 MATRIX OF RECOMMENDATIONS RESULTING.....	59
<b>ANNEXES .....</b>	<b>62</b>
<b>ANNEX 1: TERMS OF REFERENCE .....</b>	<b>62</b>
<b>ANNEX 2A: ITINERARY AND PERSONS MET .....</b>	<b>65</b>
<b>ANNEX 2B: PARTICIPANTS AT THE USG AGENCIES MEETING .....</b>	<b>66</b>
<b>ANNEX 2C: PARTICIPANTS AT KAFUE DISTRICT HEALTH MANAGEMENT TEAM MEETING.....</b>	<b>66</b>
<b>ANNEX 3: PEPFAR: PROGRAM-LEVEL INDICATORS FOR TRAINING ACTIVITIES .....</b>	<b>67</b>
<b>ANNEX 4: ZAMBIA – DISCUSSION AND PRESENTATION FROM ADDIS ABABA (JAN 2008) .....</b>	<b>68</b>
<b>ANNEX 5: ECSA 46<sup>TH</sup> MINISTERIAL MEETING – HRH RESOLUTION .....</b>	<b>70</b>
<b>ANNEX 6: PRESENTATION AT THE HRH TECHNICAL WORKING GROUP.....</b>	<b>71</b>
<b>ANNEX 7: DOCUMENTS CONSULTED / REFERENCED MATERIALS.....</b>	<b>73</b>

### List of Figures and Tables

Figure 1: Estimates of internal revenue and donor funding for national HIV/AIDS Strategic Framework 2006-2010 (in millions of US\$).....	19
Figure 2: Per Capita Health Expenditures (US\$) and Share of Personal Emoluments to Health Expenditures (%), 2006.....	20
Table 1: Personnel Emoluments and non-PE Expenditure Ceilings .....	22
Table 2: Zambia: Selected Professional registrations 2006 & 2007 .....	22
Table 3: Registration of Nurses from January 1 2004 to December 31 2007 .....	23
Table 4. Sector Performance Indicators for HRH NHSP IV, 2006 – 2010.....	25
Table 5: MoH staffing levels 2006-2008.....	25
Table 6: Comparison of staffing levels in MoH with numbers registered for 2007 .....	26
Figure 3: Kafue District – staffing returns in 2008.....	28
Figure 4: Recruitment Process.....	29
Table 7: 2007-2008 Funding Estimates for the Zambia Health Workers Retention Scheme.....	31
Table 8: 2008 targets and health workers on the ZHWRS April 2008 .....	32
Table 9: Comparing the ZHWRS to Health Budgeted Aggregates in 2008 .....	32
Figure 5: PEPFAR Legislative Targets: “2-7-10” .....	35
Table 10: Zambia Budget Allocations (2004-2008) .....	36
Table 11: Zambia FY 2008 Budget by Agency Receiving Funds.....	37
Figure 6: Training Indicator – PMTCT services. ....	42
Table 12: Trends in DFID Health and HIV/AIDS funding, 2002-7.....	45
Table 13: Zambia: Density of Doctors, Nurses and Midwives (2004).....	47
Figure 7: HRH – Implementation & Planning in 2009 and 2010.....	50
Figure 8: HRH Information – Building Blocks.....	53
Table 14: Matrix of recommendations.....	60

## Executive Summary

1. **Background.** In response to the critical Human Resources for Health (HRH) shortages in Africa, the UK Department for International Development (DFID) and Office of the US Global Aids Coordinator (OGAC) responsible for the President's Emergency Programme for AIDS Relief (PEPFAR) have been in discussion with four African countries (Ethiopia, Kenya, Mozambique and Zambia) to develop strategies and country level actions. There is high level political support for this process in the UK and US, highlighted by the joint announcements of President George Bush and Prime Minister Gordon Brown in April and June 2008 and the recent calls to action at the *UN High Level Event on the MDGs* in September 2008.
2. DFID and OGAC agreed to field a team of two consultants to work with their respective leads in Zambia in the period 12-24 January, 2009. The main objective of the assignment was to facilitate agreement and document current flexibilities of funding streams for HRH, building on existing work and within national frameworks for priority actions on HRH.
3. **National policy and planning frameworks.** The planning, management of Human Resources for health is embedded and intertwined with the broader policy context and it is critical that health sector and HRH policies are aligned with national policies and developments. National policies, programmes and plans such as the Public Service Reform Programme, Decentralisation Policy, and the Medium Term Expenditure Framework (MTEF) were examined to determine how these are influencing the health sector and the planning, management and development of HRH.
4. A public service pay policy is currently being designed which could include a job evaluation and re-grading exercise. This could contribute to improving the competitiveness of civil service remuneration and health professionals could benefit from having their jobs upgraded and their salaries enhanced relative to other salary groups. Under a new pay policy pay will relate more closely to the jobs people are doing and the skills they need to perform them, which will be important to inform decision making and strategies on health worker staffing levels and distribution. However this could also affect ongoing HRH initiatives to staff the structure approved in 2006 and match staff to posts. As a member of the Pay Reform Technical Working Group the MoH should be able to ensure that HRH strategies proposed for improving conditions of service are aligned with the long term direction for pay reform.
5. The MoH has been involved in consultations with the Management Development Division (MDD) for several years on the implementation for the Decentralisation policy. Ongoing discussions will ensure the timely harmonisation and integration of health sector reforms and the reforms proposed in the decentralisation policy. In 2003 the '*Consolidated comments on the draft MTR Report*' (December 2003) the MoH recognised the need for such harmonisation in order '*to avoid (antagonistic) competition between District Councils and Health Boards and between DDCCs and PHOs*'. It resolved that it would '*lobby for selective integration of health sector interventions into the district development coordinating committee (DDCC) plans*'. Under the Decentralisation Policy, the MOH is expected to devolve Primary Health Care activities to the local authorities. Currently managers in the provinces and district have limited responsibility for HR functions. Strategies and interventions aimed at developing the capacity of HR officers and managers to effectively assume more responsibility as the functions are devolved will be critical and should be aligned and harmonised with local authorities and developments in the broader policy context.

6. Under the CBoH and the Health Boards human resource management functions were more decentralised; Boards had authority to recruit and set conditions of service for employees. This resulted in different employment arrangements (board employees and civil servants) and HR practices (recruitment by Boards, Public Service Commission, central posting, etc.) for health workers at all levels. In 2006 after the abolition of the CBoH, the MoH inherited complicated HR systems and a very diverse health workforce and it began the process of reabsorbing all the different categories of staff into the public service and onto the government payroll. The process has been lengthy and difficult; the transfer of employees to the MoH and the staffing of the new organisation structure will not be fully completed until the first quarter of 2009. Managing and administering this process fully occupies HR officers at HQ and as a result there is limited strategic coordination and oversight of HRH and inadequate attention to the generation and utilisation of HRH data to inform planning and decision making.
7. Overall, annual health spending (government + donors) has increased mainly due to increased inflows for HIV/AIDS, TB and Malaria. Despite this increase, the MTR Report suggests that the health sector will still require an additional US\$ 45-60 million for ARVs over the duration of the National Health Strategic Plan (NHSP) in order to sustain the ART scale-up programme. If other new drugs and technologies, HR financing, and cost of treatment abroad are included, an annual addition of about USD 45 million more will be required. While the resource envelope for the health sector has increased and the range of services delivered has expanded, funding for HRH and salaries to pay for the additional staff required to provide the expanded range of services has not improved.
8. For the period 2009-2011 the Government will focus expenditures on the recruitment of frontline medical personnel; the construction of staff houses and the rehabilitation and extension of training institutions. In spite of wage ceilings the statement on PEs in the 2009-2011 MTEF is favourable regarding HRH. The Government has provided allocations to cover the recruitment of 6,883 medical personnel over the medium term. However it is not clear how these projections fit with MoH HRH plans and what numbers and type of staff will be affordable within the projected resource envelope
9. There are four main funding mechanisms to the health sector: (i) Basket funding, (ii) Earmarked-on-Budget (iii) General Budget Support (GBS) / Sector Budget Support (SBS) and (iv) off-budget or Direct Earmarked Funding. Basket Funding and the DFID Sector Budget Support (SBS) contribution are the only funds that can be appropriately classified as fully aligned and harmonised with government systems. EU SBS funding has government linked conditions that need to be reported on separately by the sector. SBS encourages a common approach by CPs and MOH to monitoring overall performance against agreed plans and priorities for the sector. But operating SBS can entail additional transaction costs and a high level of unpredictability in the release of funds, which can lead to disruptions in programme implementation. Direct Earmarked Funding is the largest pool of funds available in the health sector. With the inclusion of funds from PEPFAR and the Global Fund alone, mainly for HIV/AIDS, public per capita expenditure moved from US\$ 11 to approximately US\$ 34. Delays in the overall budgeting process affect programme planning and implementation; the budget is often not approved until 3 months or more into the financial year.
10. Regulatory and service Statutory Boards, play an important role in the implementation of the overall Government health policy and in the regulation and coordination of HRH. Some of these are currently being restructured which will help clarify their role and function in regulation, accreditation, service delivery and HRH.

11. In addition to public health facilities there are a number of other organisation and agencies managing and providing health services in the country. These stakeholders are affected by the HRH decisions made by the MoH (e.g. restructuring and the transfer of staff is having an adverse affect on staffing levels in CHAZ institutions) and they need to be fully involved in the development, implementation and monitoring of HRH policies and strategies. Some NGOs are paying salaries and providing performance based allowances and per diems to front line health workers, while others are supporting the training and development of formal and non-formal health workers. They need guidance and direction from the MoH to ensure that these HRH interventions are supporting and contributing to the achievement of strategic objectives as set out in the HRH SP. Improved partnership with the private sector could support increased production and development of HRH.
12. The National Heath Sector Strategic Plan (NHSP) 2006-2010 and the National Human Resources for Health Strategic Plan (HRHSP) 2006-2010 propose HRH strategies and interventions to address HRH challenges. The overall aim of the HRHSP is to ensure *an adequate and equitable distribution of appropriately skilled and motivated health workers providing quality services*. It provides a strategic framework to guide and direct interventions, investments and decision making for strengthening human resource planning, management and development (HRM/D) in the health sector.
13. Accurate and reliable information HRH information is required for policy formulation, strategic HRM/D planning, decision-making and action. The HRH information that is currently available is limited to the public sector health workforce and is inadequate to provide an accurate picture of staffing levels and patterns across the sector. HRH information systems and organisational and human capacity to generate, analyse and utilise information for planning and decision making needs to be strengthened. In the absence of reliable information the MoH is unable to assess the extent to which current HRH interventions (recruitment, deployment, retention, and performance management) and investment are effectively addressing the country's HRH challenges and problems.
14. However, interventions supported by The Clinton Foundation HIV/AIDS Initiative (CHAI ) on the payroll audit and workforce optimisation and the ongoing work of the MoH in collaboration with the Public Service Management Division to strengthen, expand and decentralise the Payroll Management and Establishment Control System (PMEC) should lead to improved information on the government health workforce. Further support may be required by other agencies such as the Zambia Medical Council (ZMC) and the General Nurses Council (GNC) to develop and maintain their HRH information systems. The coordination of all these supporting interventions to ensure that the effort and investments lead to a more integrated HR Information System (HRIS) and improved intelligence on HRH across the sector will be critical.
15. Wage ceilings, budgetary constraints and bureaucratic recruitment and deployment processes and procedures all impact on the ability of the MoH to recruit and post sufficient numbers of staff in a timely and efficient manner to the areas where they are most needed. There has been a concerted effort to increase the number of skilled health workers available at the lower levels of the health system, particularly facilities that were grossly understaffed, through the recruitment of graduates and the scale up of the retention scheme. According to the MoH the current Establishment contains 32,688 approved positions (but not necessarily funded posts), which represents approximately 65% of the staffing requirements for the new structure. Recruitment and deployment systems need to be improved and streamlined and non conventional approaches explored (such as contracting retired health workers and expatriates,

- use of informal and/or non health workers to deliver specific services, outsourcing recruitment, financing fast-track recruitment models using non-governmental mechanisms to rapidly hire, and deploy essential cadres) in order to achieve the HRHSP goals and objectives.
16. The Zambia Health Worker Retention Scheme (ZHWRS) is supporting the deployment and the equitable distribution of health workers. Anecdotal evidence suggests that it has been successful in attracting and retaining essential staff to rural and remote facilities. The ZHWRS is jointly funded by the GRZ, CPs and through the Basket Fund. There are currently 656 health workers on the Scheme at a cost of approximately 10.5 billion ZK per annum. The Draft 2009 Action Plan includes a budget of almost 35 billion (34,778,400,003) for the ZHWRS, which includes the cost of rolling out Phase III and for refurbishing and purchasing staff accommodation.
  17. National and institutional plans have been developed to increase the production of health workers to scale up pre-service training. Data are available on each of the 37 health training institutions and could be the basis for the development and maintenance of a Training Information Management System (TIMS). However in many institutions there is inadequate infrastructure, equipment, materials, and staffing to achieve the increased intakes and output.. The GNC are already reporting that student failure rates have increased and that attrition from pre-service training is rising.
  18. M&E systems are required to monitor the implementation of the HRHSP. Detailed indicators are needed to monitor Annual Implementation Plans, key interventions (e.g. production, recruitment, deployment, retention) and special initiatives (e.g. surveys, research studies, etc.). Monitoring and evaluation systems should provide information on staffing levels and patterns but should also examine how HR decisions and the implementation of particular interventions (e.g. delays in recruitment, sale up of the retention scheme) affect service delivery and health outcomes, the cost effectiveness of the interventions and the potential and fiscal space for scale up.
  19. **PEPFAR.** Zambia is one of 15 focus countries supported by PEPFAR programming. Country activities and the subsequent results make a significant contribution to the overall success in attaining the original “2-7-10” targets for Treatment, Prevention and Care (TPC).
  20. In 2007, this support was recognised by researchers at the Centre for Global Development as contributing to the expansion of one of the most rapid scale-up treatment programs on the African continent; increasing the number of HIV/AIDS patients on ART from 6,000 in 2003 to 81,000 by the end of 2006. The 2008 MTR also noted the roll-out of ART provision as a major success in Zambia, noting the leading contribution of the U.S. Government.
  21. In the latest 2008 figures released by PEPFAR, ART coverage rates have increased at a rate four times greater than the average in the focus countries; from 0.6% to 51% in the period 2003 - 2008. 167,500 Zambians now benefit from this expanded coverage, already surpassing the original target of 120,000 by 40% and prompting a revised target of 228,450 by September 2009. Similar success is also noted in the number of individuals receiving care where Zambia is reporting 118% attainment against the initial target of 600,000.
  22. To enable the expansion of activities and the consequent successes in the TPC programmes there has been a year-on-year increase in PEPFAR funding. This has risen from \$81.6 million in fiscal year (FY) 2004 to \$269.2 million in FY 2008 and will accumulate to over \$1.1 billion once FY 2009 appropriations are confirmed. This is a positive outcome in volume of financing, but the

global harmonisation and alignment agenda also merits ongoing review to maximise the added value of PEPFAR funding and the services that are consequently supported.

23. **Alignment with government planning.** PEPFAR programming and implementation benefits from a number of in-country mechanisms to align activities with the health sector (as per the NSHP) and HIV/AIDS priorities (as per the National AIDS Council's Strategic Framework, NACSF). The existing alignment is being further enhanced as USG agencies embark upon an intensive period of new PEPFAR procurement. Many of the current agreements with Prime Partners will be coming to the end of their five-year duration in 2009. Some new calls for proposals are already in the public domain and include criteria that interested parties must demonstrate alignment with Zambia's NHSP. There are however, still some concerns expressed by government that the existing guidance and reporting mechanisms have yet to permeate the behaviour of all implementing partners: the 2008 Mid Term Review raised specific issues on this which warrant attention.
24. **HSS and HRH.** From a review of the COP and discussions with USG staff and key implementing partners it is evident that PEPFAR programming is contributing to broader health systems strengthening (HSS) and HRH. Numerous examples of HRH interventions under the categories of planning, management and development are apparent.
25. PEPFAR funding is utilised to develop management information for HSS and HRH planning. A range of activities include sentinel surveillance, HIV Prevalence Surveys and support to the 2007 Zambia Demography and Health Survey (ZDHS). Collectively this work is guiding national and provincial level evidence-based planning, monitoring and evaluation, and advocacy efforts. There is significant untapped capacity in PEPFAR's disease surveillance activities to enhance workforce surveillance and planning for the next HRH Strategic Plan.
26. Nearly \$1m of PEPFAR support is made directly available to the MoH to expand the Zambia Health Workforce Retention Scheme; enabling payments to the individual health workers and housing improvement grants. The support programme is aligned to government systems with funds paid directly to the MoH. It is a positive example of how PEPFAR funding can be integrated into systems approaches and HRH Management at the country level. Future work can now concentrate on addressing, with all participating partners, the necessary enhanced productivity that the scheme aims to achieve. This is relevant to the health worker productivity at facility level (Is the retention scheme generating additional outputs?) and secondly the reduction of transaction costs to process partner contributions to the scheme. Further PEPFAR alignment to the preferred funding mechanisms, reducing additional reporting requirements, would be of value.
27. The majority of PEPFAR interventions in Zambia are within HRH Development and most notably In-Service Training (IST) for various health cadres and particularly Community Health Workers (CHWs). The IST emphasis is perhaps by default of the PEPFAR legislation and the indicators for reporting and planning purposes. The Emergency Plan Program-Level Reporting Framework identifies 'number of people trained' as one of four categories. Of the 48 Program-Level Indicators, 17 (or 35%) of these concentrate on measuring individual training participation. Only 4 indicators measure organisational capacity building.
28. PEPFAR partners are aware that there is room for further improvement in the coordination and delivery of IST programmes. The general consensus from partners points to an opportunity to have greater allocative efficiency with PEPFAR resources and to address the 'patchwork of

uncoordinated services' that can occasionally arise in disease focused approaches. New PEPFAR Calls for Proposals in 2009 could support this.

29. **Progress since Addis Ababa.** The examples of PEPFAR support to HRH demonstrate alignment with many of the Key Actions Resulting from an earlier meeting in Ethiopia: i.e. in supporting staff housing; retaining clinical tutors; developing public private partnerships; some direct funding; expanding the retention scheme, and; expanding HRH information systems. From this assignment, it is evident that overall PEPFAR programming for HRH is contributing to government priorities at many levels. Based on the examples offered, those areas which are less evident are: a) the production of new health workers and; b) the redistribution and productivity of existing health workers. For the former, it probably requires a shift in programming emphasis whereas the latter could be addressed through enhanced support to the retention scheme.
30. **DFID.** As one of three CPs who participate in the *Troika* for the health sector (alongside WHO and SIDA) DFID will shortly be assuming the lead coordination role. This comes at a pivotal time as the MoH and many CPs seek to finalise an addendum to the 2006 MoU between the MoH and CPs that will incorporate the principles of the IHP Country Compact.
31. DFID health and HIV/AIDS funding to Zambia has not only increased significantly in recent years (from £3.1m to £31.9m per annum) but has been influenced by both global thinking on aid harmonisation and alignment and the GRZ's introduction of General Budget Support (GBS) as a funding mechanism in 2003.
32. The Governance team in DFID also supports wider public sector activities including ongoing work with the Cabinet Office on Public Sector Management (PSM). A 'Sizing Guide', reviewing fiscal space, public sector expenditure and personnel emoluments is under consideration with the GRZ as is a 'Pay Reform Policy' which is being developed with a TWG composed of cross-government representatives, including the Director of HR from the MoH.
33. DFID's engagement and the linkages between the health sector and the broader PSM activities therefore offer considerable opportunities for the subsequent roll-out of new GRZ policy and pay reforms and the impetus these will hopefully provide to scaling-up HRH.
34. **Progress since Addis Ababa:** DFID's support to the MoH responds to many of the Key Actions Resulting from the 2008 meeting in Ethiopia. The move to GBS and the additional funds for IHP-related activities underpins the DFID approach to mobilise funding and the flexibility of such funding. Ongoing work within the *Troika* demonstrates the actions underway to implement the IHP principles and secure improved coordination, harmonisation and alignment. HR Management is a key feature in both the health and PSM activities. A recent assessment at the request of the former PS specifically responds to the need to strengthen HRH production systems and the associated infrastructure for staff.
35. **Findings and Recommendations.** Section 4 of this report provides the detailed discussion on the findings and recommendations. The table below is a summary of these.
36. Two broad areas need to be considered: a) the ongoing actions to deliver against the current HRHSP (2006-10) and; b) the planning, preparation and execution of the next HRHSP (2011-15). The latter will require close alignment with the development of the new NHSP (2011-2015) which has to be finalised by June 2010 and the 6<sup>th</sup> NDP (2011-2015) and suggests a period of

considerable planning intensity alongside the delivery of the Annual Operational Plans for 2009 and 2010.

Recommendation	Lead	Target date
<b>HRH1:</b> MoH and the Troika to review the coordination modalities for the public sector, health sector and HRH and, if needed, to develop revised mechanisms, Terms of Reference and priority actions for the next two year period of implementation and planning	MoH / Troika	to be discussed
<b>HRH2:</b> MoH and the Troika to initiate discussions on the roll-out of public sector pay reform for health workers, with due consideration of whether the MoH is positioned to take a leading role as a 'tracer' sector	MoH / Troika	to be discussed
<b>HRH3:</b> Ensure the current 'payroll audit' is capturing and reporting all corrections to PMEC on an ongoing basis and is linked into and supports the ongoing expansion and decentralisation of the PMEC	MoH	to be discussed
<b>HRH4:</b> Agree all Zambia health worker titles and their respective WHO and ILO (2008) classifications to enable standardised reporting on the health workforce. Work in this area should be aligned with the development of job descriptions and person to post matching processes that are ongoing as part of MoH restructuring	MoH	to be discussed
<b>HRH5:</b> MoH and CPs to develop a 2009 baseline of the health workforce characteristics, support the development, harmonisation and maintenance of an integrated HRIS so that reliable information is available for HRH planning and decision making. They should also explore the option with WHO to review the 'Counting Health Workers' exercise and provide an update on Zambia's progress since 2004.	MoH / Troika	to be discussed
<b>HRH6:</b> MoH and CPs develop one HRH M&E Framework/Plan to monitor the implementation of the HRH Strategic Plan. This will include targets, indicators and means of measuring them for the planned strategies and interventions in the Plan in order to effectively monitor progress and evaluate and review impact.	MoH / Troika	to be discussed
<b>HRH7:</b> The MoH and CPs to agree an HRH Knowledge Management coordination mechanism, revisiting the option of a Zambia Health Workforce Observatory and identifying a host organisation	MoH / Troika	to be discussed
<b>HRH8:</b> MoH and CPs to support interventions to improve and streamline recruitment and deployment systems and practices. More flexible and non-conventional employment and financing arrangements should be explored to recruit, deploy and retain essential staff, building on the existing ZHWRS.	MoH / Troika	to be discussed
<b>CP1:</b> MoH and DFID to discuss and review options for technical support to the planning process in 2009 and 2010.	MoH / Troika	to be discussed

Recommendation	Lead	Target date
<b>CP2:</b> MoH, NAC, USG Agencies and other CPs to explore the feasibility of additional financing for ARVs from alternative sources including GFR9.	MoH / USG	to be discussed
<b>CP3:</b> New PEPFAR procurement notices to include HRH criteria and a partners' statement on the HRH impact resulting from proposed activities.	USG	to be discussed
<b>CP4:</b> The technical and comparative advantage of USG agencies and Prime Partners in surveillance and data management to be incorporated in the coordinated activities for 'workforce surveillance', evaluation and support to Professional Associations	USG	to be discussed
<b>CP5:</b> USG agencies to review options for internal reviews and share existing data and information for national planning and policy initiatives on CHWs and CBS.	USG	to be discussed
<b>CP6:</b> PEPFAR support to the ZHWRS to be documented as a positive case-study in systems strengthening and HRH Management and the data and information utilised in national and USG planning discussions	USG	to be discussed
<b>CP7:</b> USG agencies to consider a review of existing approaches to IST against needs, mapping and delivery costs with the objective to yield resources for re-distribution to other HRH activities and through the lessons learned to inform planning of national IST strategies and approaches	USG	to be discussed
<b>CP8:</b> CPs to consider the HR Development necessary to implement future policy and guidelines on CHWs and CBS and identify potential resources for pilots and full-scale implementation.	DFID	to be discussed

37. These recommendations are for ongoing dialogue and discussion between partners. Many are complementary to each other and require continuing commitment to working in partnership, applying complementary strengths to take these forward.

## 1 Background / Introduction

1. In response to the critical Human Resources for Health (HRH) shortages in Africa, the UK Department for International Development (DFID) and Office of the US Global Aids Coordinator (OGAC) responsible for the President's Emergency Programme for AIDS Relief (PEPFAR) have been in discussion with a number of African countries (Ethiopia, Kenya, Mozambique and Zambia) to develop strategies and country level actions.
2. The aim is to demonstrate the maximum flexibility of disease specific programmes to support broad based primary care in line with countries' health plans. There is high level political support for this process in the UK and US. This was highlighted by the announcements of President George Bush and Prime Minister Gordon Brown in April and June 2008 committing to actions in the four countries '*to support partner countries to increase health workforce coverage levels, with a view to work towards the World Health Organization goal of at least 2.3 health workers per 1,000 people*'.
3. Further to coordination meetings in Addis Ababa (January 2008) and Kampala (March 2008) DFID and OGAC agreed to field a team of two consultants to work with their respective leads in Zambia in the period 12-24 January, 2009. Jim Campbell (INTEGRARE, Spain) was engaged by DFID and Margaret Caffrey of LATH (a consortium partner in the USAID-funded 'Capacity Project') was made available under existing arrangements with PEPFAR/United States Agency for International Development (USAID). The main objective of the assignment was to document current flexibilities of funding streams for HRH, and recommend specific priority actions on HRH in Zambia, building on existing work and within national frameworks for HR, health and public sector reform. The Terms of Reference (TOR) for the assignment is available as Annex 1.
4. This report presents a summary of the main findings from the country visit. Section 2 details the context of wider policy, planning and HRH in Zambia. Section 3 reviews the respective activities of PEPFAR and DFID and their progress since the meeting in Addis Ababa. Opportunities to take forward further action on HRH are discussed in Section 4.
5. Method of working:
  - ❖ Pre- and on-arrival briefing meetings were held with Randy Kolstad (USAID) and Dyness Kasungami (DFID), generating a list of key informants. The visit itinerary and list of persons met are appended as Annexes 2A, 2B and 2C.
  - ❖ Relevant published and grey literature was reviewed. A bibliography is appended as Annex 7.
  - ❖ Interviews were conducted by one or both consultants and the results recorded in note form.
6. During the country visit there were a number of developments across the health sector. Of note were: President Banda's address to the National Assembly <sup>1</sup> articulating a continuing emphasis on the health sector and the expansion of the GRZ's Health Worker Retention Scheme; and the appointment of a new Permanent Secretary in the Ministry of Health, Dr. Velepi Mtonga<sup>2</sup> on 22<sup>nd</sup> January.

<sup>1</sup> Full transcript available at: <http://zambian-economist.blogspot.com/2009/01/presidential-speech-full-transcript.html> Accessed 27 January, 2009.

<sup>2</sup> <http://www.zambianwatchdog.com/?p=959>

## 2 National policy and planning frameworks

7. The scope of work had particular request relating to Zambia's national policy and planning frameworks and their relation to HRH plans and priorities:
  - ❖ Review public sector strengthening/reform and other HR related initiatives and their implications for HRH
  - ❖ Review the Zambian government HRH plan and priorities. An HRH strategic plan and the training operational plan have been developed and a set of priority HRH issues and actions is emerging from the mid-term review of the NHSP. The consultants need to review MTR recommendations for HRH plan, including priority interventions, blocks to implementation and identify funding gaps.
8. Due consideration was therefore given to the wider government initiatives and planning frameworks in which the health sector and the HRH planning and implementation operates. This includes the Public Service Reform Programme (PSRP), Health financing and the Medium Term Expenditure Framework (MTEF), and findings and recommendations from the Mid Term Review (MTR). These are discussed in detail below.
9. The **Public Service Reform Programme** 2003-08 defined the government's strategy for the management and capacity building of the public sector. The main areas of the PRSP are:
  - ❖ Right sizing and pay reforms
  - ❖ Enhancing Performance Management
  - ❖ Strengthening policy management
  - ❖ Enhancing public expenditure management and financial accountability
  - ❖ Decentralisation and strengthening of the local government system
10. A **Medium Term Pay Reform Strategy (MTPRS)** for the period 2002-2007 was adopted in August 2002 and implementation began in 2003. In April 2003 the job grade structures were rationalised and the number of salary scales was significantly reduced<sup>3</sup>. However, as implementation progressed resistance grew from the unions and other groups within the public sector and government began to adopt more ad hoc approaches to implementation. The consolidation of remunerative allowances into basic salaries was not achieved, which allowed the wage bill to grow even further. Because of its failure to reach budget benchmarks, the government delayed reaching the Heavily-Indebted Poor Countries (HIPC) completion point. These approaches created distortions and problems such as wage bill overruns and budgetary stress and left many of the original pay and benefit problems unresolved and resulted in greater fiscal austerity during the implementation of the MTPRS.
11. In 2007/08 a number of diagnostic studies (review of MTPRS implementation; employee perception study; review of current pay and grading arrangements; a comparative remuneration and benefits survey and employee attrition and retention study)<sup>4</sup> were undertaken to highlight the experiences, successes and limitations of the implementation of the MTPRS and to inform the design and development of a comprehensive pay policy. It was only after the expiry of the

<sup>3</sup> Zambia Public Service Diagnostic Studies: Synthesis Report. Draft report December 2008. Prepared by Theodore R. Valentine, Dale S. Mudenda, with assistance from Joseph Rudumyamheto

<sup>4</sup> *ibid*

2002-07 period of the MTPRS, that a comparative remuneration survey was undertaken. A public service pay policy and a pension's reform policy are now being designed and developed and a job evaluation and re-grading exercise is being planned. It is unclear at this stage what implications the implementation of a comprehensive pay policy will have on the health sector, but learning from the implementation of the 2002-07 phase will be critical.

12. The **National Decentralisation Policy** has brought about new challenges for the public service. Under the Policy, the MOH is expected to devolve Primary Health Care activities to the local authorities. In May 2007 the MOH developed a position paper on decentralisation and revised its planning guidelines to align them with a more bottom-up and decentralised approach. Current systems of health services accreditation and performance assessments are being strengthened and implemented at district levels. The role and structures of statutory bodies is being reviewed to determine how their functions can be strengthened and decentralised. The role of the Provincial Health Office (PHO) is increasing and being strengthened. Districts report that this approach is working well and that the 'closeness' and accessibility of the PHO to the districts is a major achievement in terms of providing improved technical support and assistance<sup>5</sup>
13. The overarching goal of the Zambian health sector is "equity of access to assured quality, cost-effective and affordable health services as close to the family as possible". The fourth National Health Strategic Plan (NHSP 2006-2010), which is aligned with the Fifth National Development Plan (FNDP 2006–2010) aims at "*further improving service delivery in order to significantly contribute to the attainment of the MDGs and national health priorities*".
14. Under the **Health Sector Reform Programme** in the early 1990s, the government started decentralizing health services to transfer key functions and resources from the central MOH to the district level. A "split purchaser/provider model was adopted and two parallel but complementary structures were introduced, namely the popular structures which included the Central Board of Health (CBOH), Hospital Management Boards (HMBs), District Health Boards (DHBs), the Neighbourhood Health Committees and Health Centre Committees; and the technical and management structures, which included the management teams at MOH and CBOH, the Hospital Management Teams (HMTs), and District Health Management Teams (DHMTs) and Provincial Health Offices (PHOs).
15. However an assessment in 2004 found a duplication of functions across the sector but especially at the central level, resulting in "a bloated and costly central level structure"<sup>6</sup>. In 2005 GRZ repealed the Health Services Act 1995 that had created the health boards. This brought about the abolition of all boards and in 2006 the management and control of all public health facilities and services were brought back under the control of the MOH. The abolition of the Boards has led to a re-centralisation of decision taking and has also reduced the ability of the general population to influence health services. It was proposed that Advisory Committees be created to replace the Boards but this has not yet happened and public accountability of health institutions at the local level has not been fully addressed.
16. The MOH is currently being restructured in line with the PSRP) which aims at creating a cost-effective and efficient Public Service capable of delivering quality service to the public. The restructuring process is subject to the Office of the President/Cabinet Office approval at all

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<sup>5</sup> MTR Report 2008 p. 125

<sup>6</sup> MTR Report 2008 p.122

stages, resulting in MOH often not being central or fully in control of particular stages of the process.

17. The following are the steps taken during the structuring process in the Zambian Public Service

1. Staff and Management Audit of Institution
2. Development of an Institutional Structure
3. Approval of the Institutional Structure
4. Granting of Treasury Authority to effect the structure
5. Development and Approval of Job Descriptions
6. Implementation of the Structure:
  - Person to post matching
  - Placing staff into the new structure
  - Advertising vacant posts where placements cannot be done through internal staff
7. Introduction and implementation of Performance Management Package

18. A technical steering committee in consultation with the Management Development Division, Cabinet Office coordinated an initial audit of the functions of the health sector and in consultation with health managers and staff proposed new structures and staffing requirements for the sector. In May 2006, the new structure with a total establishment of 51,404 medical and non medical posts was approved. It is being implemented in phases subject to the availability of funds in each budget year and in line with the MTEF.

19. The new structure aims to have an **equitable distribution of skilled health workers across the country to facilitate the efficient and effective delivery of health services to the people of Zambia as close to the family as possible**. Job Descriptions and specifications for all posts have been developed. An internal recruitment and person-to-post matching exercise to fill and appoint and place people in the posts in the approved structure was initiated and is still in progress. In November 2008 placements had been completed at HQ and Provincial health Offices. The entire process is expected to be completed by the end of the first quarter of 2009.

20. In order to staff the new approved structure, Treasury Authority was granted in 2007 for a total of 30,883 positions, out of which 25,260 were retained positions and 5,263 were new positions created on the Establishment. In 2008, the MoH focused on identifying positions to be filled at Ministry of Health HQ, the Provincial Health Office, District Health Office, L1, 2 &3 Hospitals, Training Institutions and Statutory Board and aimed to create 1,809 new posts, which would have raised the Establishment to 32,692. In November 2008 it was reported that there was a total of 32,688 (63% of requirements) established and approved positions in the public sector<sup>7</sup>.

21. The GRZ provides more than half of the available **financing** for the health sector, rising from 52% in 2006 to 64% in 2008. In 2007 donors contributed 32% to the total health budget to the following areas:

- ❖ Service Delivery: 72%;
- ❖ District health services: 62%;
- ❖ Human Resource Training: 55%;
- ❖ National health system management: 47%;
- ❖ Drug management: 41%.

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<sup>7</sup> Minutes of the 11<sup>th</sup> HR Technical Working Group Meeting. 25 November 2008

22. Overall, the actual annual health spending (government + donors) has increased from about US\$115 million (2004/05) to over US\$ 270 (2007), mainly due to increased inflows for HIV/AIDS, TB and Malaria. Donor annual commitments to HIV alone have increased from US\$ 22 million in 2005 to about US\$ 180 million in 2008 – surpassing the total spending for all other (non-HIV) health interventions. Despite this increase, the MTR suggests that the country will still require an additional US\$ 45-60 million for ARVs over the duration of the National Health Strategic Plan (NHSP) in order to sustain the ART scale-up programme plus the switch-rate from current d4T-based regimens to new TDF-based regimens<sup>8</sup>. If other new drugs and technologies, HR financing, and cost of treatment abroad are included, an annual addition of about US\$ 45 million more will be required.

**Figure 1: Estimates of internal revenue and donor funding for national HIV/AIDS Strategic Framework 2006-2010 (in millions of US\$)**

Source	2006	2007	2008	2009	2010
Government of Zambia*	15.00	15.00	15.00	15.00	15.00
UN Family & World Bank	5.00	5.00	5.00	5.00	5.00
JICA (Japan)	3.21	3.21	3.21	3.21	3.21
PEPFAR (USA)†	149.00	149.00	149.00	74.00	74.00
NORAD (Norway)	2.85	2.85	2.85	2.85	2.85
Netherlands	1.21	1.21	1.21	1.21	1.21
DCI (Ireland)	3.75	3.75	3.75	3.75	3.75
SIDA (Sweden)	3.93	3.93	3.93	3.93	3.93
Global Fund‡	52.80	52.80	52.80	19.80	19.80
DFID (United Kingdom)	7.07	7.07	7.07	7.07	7.07
European Union	4.03	4.03	4.03	4.03	4.03
Private Charities	10.00	10.00	10.00	10.00	10.00
<b>Total</b>	<b>257.85</b>	<b>257.85</b>	<b>257.85</b>	<b>149.85</b>	<b>149.85</b>

\* The GoZ is expected to increase its input up to US\$30 million per year due to the Debt Dividend, but the estimates here represent 50% of the maximum. †US Government commitment beyond 2008 is uncertain. ‡Zambia will apply for the Global Fund Round 6, but estimates here are based on current Global Fund grants only. SOURCE: National HIV/AIDS Council 2006

Source: MTR Report 2008

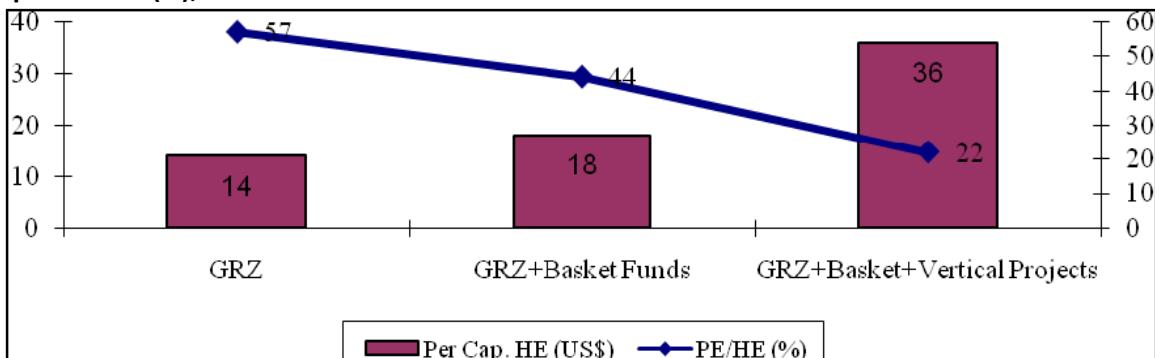
23. For 2008 there was a financing gap of ZMK 98 billion. Although the resource envelope has increased, funding for other priority programmes of the health sector has not improved and the GRZ expenditure on health as a percentage of its overall public expenditure has only improved marginally<sup>9</sup>. There is still a large gap in funding the basic package of health care in Zambia, particularly human resources, new drugs and technologies, infrastructure and equipment. The health sector Public Expenditure Review (PER) in 2006 showed that the level of external resources is actually increasing in a major way, but comparatively little is flowing to human resources. This situation had not changed in 2008. The budget for HRH activities to be undertaken in 2009 is estimated to be approximately ZMK 46 billion (45,844,899,961.40) for Human Resource Management (HRM) and ZMK 58 billion (57,742,616,000) for Human Resource Development (HRD)<sup>10</sup>

<sup>8</sup> MTR Report 2008

<sup>9</sup> MTR Report 2008

<sup>10</sup> Draft MoH 2009 Action Plan

**Figure 2: Per Capita Health Expenditures (US\$) and Share of Personal Emoluments to Health Expenditures (%), 2006**



Source: MTR Report 2008

24. The Mid Term Review Report categorises the four main funding mechanisms to the health sector as follows (i) Basket funding, (ii) Earmarked-on-Budget (iii) General Budget Support (GBS) / Sector Budget Support (SBS) and (iv) off-budget or Direct Earmarked Funding<sup>11</sup>. Basket funding is projected to be US\$ 40 million for 2008. SIDA, RNE and CIDA are the major contributors: other CPs include USG, DFID, World Bank and UNFPA. Basket funding and GBS/SBS are the only funds that can be appropriately classified as fully aligned and harmonised with government systems; with GBS/SBS considered to be the preferred instrument from a financial management perspective encouraging common approaches and common reporting<sup>12</sup>. The EU's contribution to SBS is however, subject to the attainment of additional specific conditions that need to be reported on separately.. Earmarked-on-Budget funds represent the largest amounts of funds and are projected to be US\$ 207.21 million in 2008
25. Direct Earmarked Funding (using the donors systems which are off-budget) is the largest pool of funds available in the health sector. Almost all the partners including basket funders, the signatories to the Global IHP Compact, allied initiatives and UN agencies in health, run directly financed vertical programmes using Direct Earmarked Funding. With the inclusion of funds from PEPFAR and the Global Fund alone, mainly for HIV/AIDS, public per capita expenditure moved from US\$ 11 to approximately US\$ 34.
26. The use of Sector Budget Support encourages a common approach by CPs and MOH to monitoring overall performance against agreed plans and priorities for the sector, and this in turn, can be supported by a common set of reporting requirements. However the MTR report noted that operating SBS can entail additional transaction costs and a high level of unpredictability in fund release. For example at the time of the MTR, the DFID funding for user fee replacement had not been received by MOH; The EU funds for 2006 were delayed for a year, while those of 2007 came six months later than expected; DFID funding for 2007 was only disbursed to MOH in April 2008. This level of unpredictability means that programme implementation could be disrupted and the MTR recommends that until the modalities for release of funds have been agreed it may be advisable for other CPs not to move to SBS until the end of the current NHSP.

<sup>11</sup> MTR Report 2008. pp. 129-130

<sup>12</sup> MTR Report 2008., p.104

27. There are also delays in the budgeting process: the MTEF and call circular are not available until late in the financial year and the budget is approved some 3 months into the year to which it relates. The preparation of the operational plans is based on forward resource envelope projections from the previous year's MTEF. The plans then have to be adjusted when the final budget ceilings are agreed. However it is expected that reforms being implemented through Public Expenditure Management and Financial Accountability programme (PEMFA) will address these constraints.
28. The MTR report recommends that with the current economic climate, declining copper prices and the change in investor sentiment, the GRZ should look for other non-budgetary financing options, such as Social Health Insurance (SHI), private investments through PPP arrangements and work-based health and HIV/AIDS prevention and treatment programmes<sup>13</sup>. It is projected that external grants will be declining over the medium term from 4.98 percent of GDP in 2009 to 2.95 percent of GDP in 2011. This is mainly on account of the completion of on-going projects, CPs shifting from project financing to direct budget support and no confirmation of new commitments by CPs. For the period 2009-2011 the government indicates that it will be focusing on maintaining fiscal prudence<sup>14</sup>.
29. For the period 2009-2011 the Government is expected to focus expenditures on priority health interventions. It is committed to reducing the incidence of HIV/AIDS, malaria and other diseases and to improve service delivery, particularly in rural areas by increasing primary health facilities. The recruitment of frontline medical personnel will continue to be a priority and the construction of staff houses and the provision of medical equipment will be undertaken in order to retain the existing health workforce. It will support the rehabilitation and extension of training institutions and health facilities, as well as the construction of maternity wings, mother's shelters, health posts and hospitals in various parts of the country<sup>15</sup>.
30. The allocation to Health between 2009 and 2011 is expected to average at 11.51 percent, with a concentration on the areas of Public Health Services, Medical Products and Appliances, and Hospital Services. In spite of wage ceilings the statement on PEs in the 2009-2011 MTEF<sup>16</sup> is favourable regarding the health sector. The Government has provided K25.00 billion in 2009, K42.00 billion in 2010 and K45.00 billion in 2011 in order to recruit essential health workers (see Table 1, below). These allocations are expected to cover the recruitment of 6,883 medical personnel over the medium term.
31. The Government has also provided allocations for health infrastructure development (K186.80 billion in 2009, K136.60 billion in 2010 and K162.72 billion in 2011), and for the procurement of essential drugs and medical equipment, (K99.70 billion in 2009 and K191.60 billion per annum in 2010 and 2011).

<sup>13</sup> MTR Report 2008

<sup>14</sup> Ministry of Finance and National Planning (2008) 2009-2011 Medium Term Expenditure Framework and the 2009 Budget. Green Paper

<sup>15</sup> ibid

<sup>16</sup> ibid

**Table 1: Personnel Emoluments and non-PE Expenditure Ceilings**

<b>2008 Ceiling</b>	<b>Institution</b>	<b>2009 Projection</b>	<b>2010 Projection</b>	<b>2011 Projection</b>
Personnel Emoluments and other PE-related Expenditure Ceilings				
442,512,968,623	Ministry of Health	544,419,432,344	613,303,452,306	659,574,724,954
24,750,000,000	o/w net recruitment	25,000,000,000	42,000,000,000	45,000,000,000
Non Personnel Emoluments Ceilings				
113,600,000,000	o/w Provision of Essential Drugs & Medical Supplies	99,700,000,000	191,600,000,000	191,600,000,000
61,100,000,000	Medical Equipment and Accessories	61,600,000,000	81,700,000,000	81,700,000,000
117,500,000,000	Health Infrastructure Development	186,800,000,000	136,600,000,000	162,717,333,333
	o/w Central Hospitals Infrastructure Development	26,000,000,000	28,600,000,000	30,888,000,000

Source: Extracted from the 2009-2011 Green Paper

32. **Statutory Boards.** Both regulatory and service Statutory Boards, play an important role in the implementation of the overall Government health policy. Many Boards, such as the Medical Council of Zambia (MCZ), General Nursing Council (GNC), Zambian Flying Doctor Service, National Food and Nutrition Commission, and the Tropical Diseases Research Centre (TDRC) are also in the process of being restructured<sup>17</sup>. It is expected that this will include a review of the roles and function of statutory bodies which should clearly identify their inspection and accreditation functions and their role in supporting service delivery and the setting of standards and norms.
33. The MCZ has 33 practitioner registers and over 10,000 professionals registered as at June 2008 (not all of whom are necessarily working within the health sector in Zambia). It has developed and disseminated ART accreditation guidelines.

**Table 2: Zambia: Selected Professional registrations 2006 & 2007**

<b>Health Professional</b>	<b>2006</b>	<b>2007</b>
Clinical Officers	2314	2427
Medical Practitioners	1330	1476
Specialists	268	294
Pharmacists	150	201
Medical Licentiates	42	65
<b>Totals</b>	<b>4104</b>	<b>4463</b>

Source: Medical Council of Zambia. 2007 Annual Report

34. Since 2004 the GNChas re-registered over 20,000 nurses and midwives (see Table 3 below). It is also guiding the development of a new Direct Entry Midwife curriculum as part of the national scaling up of health training.

<sup>17</sup> Ministry Of Health Quarterly Issue No. 1 October – December 2008

**Table 3: Registration of Nurses from January 1 2004 to December 31 2007**

<b>Nurse title</b>	<b>Number registered</b>
Registered Nurse	5,425
Registered Midwife	2,427
Registered Mental Health Nurse	105
Registered Operating Theatre Nurse	384
Enrolled Nurse	9,434
Enrolled Midwife	3,464
Enrolled Psychiatric Nurse	208
Enrolled Operating Theatre Nurse	94
Paediatric Nurse	9
Ophthalmic Health Nurse	12
Critical Care Nurses	2
Anaesthetic Nurse	1
Public Health Nurse	71
Midwifery Tutors Diploma	8
Diploma in Nursing Education	70
Bachelor of Science in Nursing	78
Master of Science in Nursing	8
Foreign Nurses	40
<b>Total</b>	<b>21,840</b>

Source: General Nursing Council

35. **Service Providers.** There are a diverse number of health care providers in Zambia. These include public health facilities under MOH, facilities under the Ministry of Defence, including clinics and one hospital in Lusaka, clinics under the Ministry of Home Affairs, mining hospitals and clinics, mission hospitals and clinics which are coordinated by the Churches Health Association of Zambia (CHAZ), non-government organizations (NGOs), private for profit hospitals, clinics, pharmacies/drug shops, labs and investigation centres, and traditional healers. The private for - profit sector is growing, but mostly concentrated in urban Zambia<sup>18</sup>
36. **Service delivery,** particularly HIV/AIDS services, is also managed by external agencies. The Churches Health Association of Zambia (CHAZ) has 34 hospitals, 64 health centres and 37 Faith Based Organisations (FBOs), providing approximately 30% of the health care in Zambia. CHAZ is especially active in the areas of HIV/AIDS, TB and Malaria. It operates through: (1) a signed MOU with the MOH; (2) formal arrangements with a number of CPs. The Global Fund and CHAZ (as Principal Recipient) have signed HIV/AIDS and TB Grants totalling \$50,906,608 up to 2008 for rounds one and two; additional grants were approved in 2007 for HIV/AIDS, ART scale up and Malaria<sup>19</sup>. Its annual budget in 2006 was US\$ 20.14 million. However the MoH restructuring have affected the operation of CHAZ e.g. there has been a change in the MOH support for the CHAZ staff and staff transfers are adversely affecting staffing levels in CHAZ institution. The

<sup>18</sup> MOH/World Bank (undated) Zambia Public Expenditure Tracking and Quality of Service Delivery Survey in the Health Sector. Findings and Implications

<sup>19</sup> MTR Report 2008

abolishment of user fees in 2006 for base-line services has affected the CHAZ members and has contributed to increased reliance on Government support.

37. It is estimated that Zambia has a total of 600 NGOs, with 150 of these focusing exclusively on HIV and AIDS. A large proportion of funding for the International NGOs comes mainly directly through the CPs. USAID funding and PEPFAR funding is channelled to more than 60 partners<sup>20</sup>. The majority of the NGOs implement at Provincial and District level and collaborate with DHMTs in the planning, budgeting and supervision of activities. Support provided by FBOs, NGOs and CBOs includes capacity building, incentives, provision of drugs, equipment, IEC materials, resource centres, resource mobilisation, support supervision, mobile VCTs, support to AIDS and TB clients to Income Generating Activities<sup>21</sup>. The MTR noted that there was little synergy and collaboration between the MoH and many of the NGOs operating in the health sector. They often have a fragmented interest in the health sector and interventions lack coordination.
38. **Private Sector.** Engagement with the private sector is mainly limited to regulatory functions such as licensing; few formal service agreements with the private-for-profit sector exist. Similar to the NGO sector, there is no formal platform for external coordination, with the health-related stakeholders from the private for-profit sector. There are positive signs of change where the MOH has started to strengthen relations. The initiative *Triangle of Hope* aims to increase investments in the health sector. Priority areas are: Medical services, manufacturing of pharmaceutical products, medical laboratory services, diagnostic services, repair and maintenance of medical equipment, laundry services to medical institutions, ambulance services and HRH development. Favourable tax incentives will be provided to attract investors. A study carried out to examine potential areas for Public-Private Partnerships in health, found that there is willingness among private practitioners (general practitioners, drug vendors, traditional practitioners) to collaborate with the Government<sup>22</sup>.

## **2.1 National HRH plans and strategies**

39. The Ministry of Health Human Resource and Administration Directorate, through its HR planning, management and development units, is responsible for the implementation of HR strategies and interventions. It is guided in its efforts by the National Heath Sector Strategic Plan (2006-2010) and the National Human Resources for Health Strategic Plan (2006- 2010). The overall aim of the HRHSP is to ensure *an adequate and equitable distribution of appropriately skilled and motivated health workers providing quality services*. Both these plans acknowledge that HRH challenges are seriously undermining health sector capacity to provide even the basic health care services to the people and are a major obstacle to achieving the Millennium Development Goals (MDGs) and to combating priority diseases. The Plans propose HRH strategies and interventions to address these challenges and to promote the effective planning, management and development of HRH across the health sector. However, the 2008 MTR Report suggests that no targets have been stated in NHSP IV for the number of Doctors, Nurses and Midwives to be practicing by 2010 (see Table 4). Additionally, the data quoted appears to reflect

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<sup>20</sup> A wide range of partners receive support, including: HSSP (health systems and services programme), PSI (social marketing), FHI (HIV/AIDS Care and Treatment), JSI/DELIVER, PACT Zambia, JPIEGO, Children AIDS Fund, CRS, Concern, RAPIDS (consortium of faith-based and non-governmental organisations), SHARE (consortium), Christian Aid, Plan, Corridors of Hope

<sup>21</sup> MTR Report 2008

<sup>22</sup> Mudenda D and others, Potential Areas for Public-Private Partnerships in Health: The Case of Zambia (2007).

only the public sector payroll information as extracted from PMEC; a source which has noted inaccuracies (see section 2.1.1).

**Table 4. Sector Performance Indicators for HRH NHSP IV, 2006 – 2010**

INDICATOR	BASELINE 2005/06	MID TERM REVIEW Sept. 2008	Target NHSP IV
Doctor / Pop Ratio	1:18,100 (05)	1:14,423 (08)	Not Stated
Nurse / Pop Ratio	1:1,918 (05)	1:1,957 (08)	Not Stated
Midwives / Pop Ratio	1:5,144 (05)	1:5,189 (08)	Not Stated
Qualified HW / 1,000 Pop	0,77 (05)	0,77 (08)	
Trained TBA / 1,000 Pop	0,47 (05)	0,42 (SB 07)	
Active CHW / 1,000 Pop	0,11 (05)	0,08 (SB 07)	

Source: Extracted from the MTR report 2008 (p xiii).\*Qualified Health Workers include Doctors, Nurses and Midwives

### 2.1.1 *HRH - Planning*

40. As the MTR report indicates there is limited information available on actual numbers of staff in the public sector and little or no information on the total number of health workers in the health sector (public, private for profit and not for profit) to inform HRH planning and decision. As a result it is difficult to adequately describe the staffing situation for the sector as a whole. The information provided in Table 5 below provides some information on staffing levels in the government sector and in mission-run institutions. It was compiled from many different data sources and datasets and does not provide a complete or consistent picture of staffing levels and patterns.

**Table 5: MoH staffing levels 2006-2008**

Cadre	2006 <sup>23</sup>	2007 <sup>24</sup>	2008 <sup>25</sup>
Medical Doctor	646	720	861
Clinical Officer	1,161		Not available
RM/ZEM	2,273	2,255	2,393
RN/ZEN	6,096	6,534	6,345
Other medical <sup>26</sup>	2,581	2,334	Not available

<sup>23</sup> From National Health Strategic Plan 2006-10 and HRH Strategic Plan 2006-10

<sup>24</sup> From Annual Health Statistical Bulletin 2007 (draft produced August 2008). Data source for 2007 is Public and Management Establishment Commission (PMEC) Database, 2007.

<sup>25</sup> Extracted from July 2008 PMEC and included in presentation on Human Resources & Administration 2008, presented by CHRMO on 15 September 2008.

Tutors & Lecturers	157	163	Not available
Paramedic <sup>27</sup>	-	-	3,090
Laboratory Technologist	417	-	432

Source: MTR Report 2008

41. When we compare PMEC 2007 staffing levels for the key cadres (e.g. doctors and nurses) with the 2007 data from the Medical Council and Nursing Council, we can see that there are over 15,000 registered health workers who are not currently employed in the public sector. Table 6 below highlights the variation. The nursing example shows that there a total of 8,738 nurses and midwives employed in the government and mission facilities but over 20,000 nurses and midwives have been registered by the GNC<sup>28</sup>.

**Table 6: Comparison of staffing levels in MoH with numbers registered for 2007**

Cadre	MoH PMEC	MCZ	GNC	Difference
Doctors	720	1770 <sup>29</sup>		1,050
Specialists		294		294
Clinical Officers	1,213	2427		1,214
Nurse/Midwife	8,738		21,840	13,102
				<b>15,660</b>

Source: Adapted from 2007 PMEC, ZMC, GNC (2007/8)

42. In 2008 an Establishment of 31,084 funded posts (approximately 60% of the total posts required for the new structure) was agreed and approved and it is expected that there will be an annual incremental increase in Personnel Emoluments to allow the MOH to fill the remaining posts on the structure. The current Establishment has 32,688<sup>30</sup> approved positions (but not necessarily funded posts) but as not all the posts on the establishment are filled; it is not an accurate reflection of the staffing situation.
43. The PMEC is not fully loaded yet and in its current form it is not a reliable information source. Furthermore the PMEC does not use standard job classifications for cadres or jobs and as a result the same data may be interpreted differently by different analysts. The discrepancies in the classification system may also be contributing to an overestimation of the number of doctors in post, as there are some who are in managerial/administrative positions undertaking minimal or no clinical duties. For example the 2008 staffing data that were used for the MTR indicate that there are 861 doctors in post whereas recent analysis of the September PMEC suggests that there 471 doctors on the payroll. In November 2008 the HR Directorate reported that were a

<sup>26</sup> Extracted from The Annual Health Statistical Bulletin 2007 (draft produced August 2008). Other Medical Personnel = Includes cadres such as Medical Licentiates, Laboratory, Environmental, Radiology, Physiology, Biomedical, etc.

<sup>27</sup> Includes Clinical Officers and Medical Licentiates

<sup>28</sup> General Nursing Council of Zambia (2007) Registration of Nurses from 1<sup>st</sup> January 2004 to 31<sup>st</sup> December 2007

<sup>29</sup> Includes Medical Practitioners and Specialists

<sup>30</sup> Minutes of the 11<sup>th</sup> HR Technical Working Group Meeting. 25 November 2008

total of 32,688<sup>31</sup> established and approved posts, while the September 2008 payroll shows a total of 24,403 staff in post.

44. However more reliable and up-to date information the government health workforce may soon be available. The Clinton Clinton Foundation HIV/AIDS Initiative (CHAI )is supporting a Payroll Audit to validate payroll data on the number, qualifications, and location of health workers that are presently employed by MoH (see section 3.3 for further information).
45. In 2008 a team from MoH and Public Service Management Division (PSMD) conducted an assessment to determine the feasibility (including an assessment of connectivity from MoH HQ to the Provinces, technology and equipment) of decentralising the PMEC to the provinces. In late 2008 the PMEC payroll management and executive control module was rolled-out to Northern and Central provinces. The MoH is also planning to expand the PMEC, by purchasing and utilising two additional modules - Training and HR Management - so that improved HRH information can be produced for planning purposes.
46. The legacy of the CBoH employment arrangements makes it even more difficult to get definitive and accurate data on staffing levels and patterns. Up until the abolition of the CBoH and removal of user fees, Health Boards had authority to employ staff on short term contracts and to use operational grants and user fees to pay salaries and top ups to staff. During the recruitment freeze the boards could employ staff as required on a provisional basis, with the expectation that they would eventually be confirmed and put on the payroll. In 2002 there were 4 categories of staff identified; namely civil service employees, civil service employees seconded to the boards, board employees on fixed contracts and permanent board employees. The partial and incomplete delinkage of health workers has resulted in the existence of several different categories of staff when the CBoH was abolished. There were those who had fixed term CBoH contracts; those who were seconded from the MoH; those who were on CBoH contracts but donor funded; support and casual staff (CDEs) employed by hospital and district boards and paid for from district grants and other health workers employed by grant aided institutions<sup>32</sup>.
47. After the abolition of the CBoH the MoH inherited a very complicated HRH situation. It had to negotiate a new establishment to cater for all health workers, including Board employees, and to begin reabsorbing staff into the civil service. It had to standardise recruitment procedures so that recruitment could only occur into approved and funded positions. The MoH is still in the process of transferring all contract staff to the civil service and onto the government payroll and until this is complete it will be difficult to get definitive staffing data. Preliminary findings from the payroll audit being undertaken by the HR department with support from the Clinton Foundation HIV/AIDS Initiative (CHAI) suggest that there are still significant numbers of health workers who are not on the government payroll. These data need further analysis and it is not yet clear how these staff are employed and paid. However correspondence between the Director of Technical Support Services and Provincial Health Directors in November 2008 seems to suggest that operational grants are still being used to employ and pay staff<sup>33</sup>. Until the process of person to post matching is complete it may be difficult to get definitive data on staffing levels and patterns across the sector.

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<sup>31</sup> *ibid*

<sup>32</sup> There are four grant aided agencies including CBoH, the Zambian Flying Doctors Scheme, the Nutrition Commission, and Medical Association of Zambia.

<sup>33</sup> MoH internal memo. Subject: Use of Grants to pay Employees. November 24 2008.

48. **Recruitment:** The creation of newly funded positions in the health sector is based on a budget envelope and determined by the Ministry of Finance and National Planning in consultation with PSMD, MDD and MoH. MoH is responsible for determining the staffing requirements. PSMD is responsible for maintaining the Establishment for each line ministry. Each year during the budgeting process the government allocates additional resources for health in response to the request by the MoH. These additional resources are used to fund new posts in the establishment as well as to finance promotions and salary increases. The MoH decides how the allocation will be made and decides the skills mix and cadres of health workers to be recruited.
49. As the MTR noted there is an absence of consolidated and reliable data on recruitment. The only information available at the time of the MTR were Treasury Authority and PSMD circulars, which provide details of the numbers and types of staff that the MOH was given 'authority to recruit' but not the number actually recruited. The HR Directorate reported that there has been a concerted effort to increase the number of skilled health workers available at the lower levels of the health system, particularly facilities that were grossly understaffed, through the recruitment of graduates and the scale up of the retention scheme. Figure 3 below on the situation in Kafue District is an example of net gains in 2008. (However, it should be noted that the district is within commuting distance from Lusaka and may not be representative of all other districts.)

**Figure 3: Kafue District – staffing returns in 2008.**

<p>The Kafue District serves an estimated population of 274,000 and is 45km from Lusaka. It has 1 District Hospital, 16 Health Centres and 2 Health Posts. Of the 16 Health Centres, 5 are categorised as 'urban' and 11 as 'rural'. There are also 7 military, 1 hospice and 5 private facilities in the District.</p> <p>The District Health Management Team currently identifies 262 health workers in post against a 'CBOH establishment' of 300 (excluding the Hospital and the DHM office). Of the 38 current vacancies 31 are for clinical cadres.</p>		
New recruitment in 2008:	25	12 Clinical Officers; 3 Enrolled Nurses; 2 Dental Therapists; 1 Pharmacy Technician, 1 Nutritionist; 1 Environmental Health Technician; 4 support staff
Attrition in 2008	13	5 retirees (4 Midwives; 1 Laboratory Technologist) 5 transfers (2 Midwives; 2 Enrolled Nurses; 1 Clinical Officer) 2 resignations (1 Clinical Officer; 1 Environmental Health Officer) 1 death (Enrolled Nurse)
Net gain:	12	
<p>Net recruitment in this particular District is positive, including the specific increase in Clinical Officers.</p>		

Source: Kafue DHMT records (Jan 2009).

50. The recruitment process and procedures for filling vacancies are often lengthy and time-consuming, requiring coordination across many different government agencies and between different levels within the MoH (see Figure 4 below) The process involves communication through many different channels within the MoH, negotiating annual PE budgets with the Ministry of Finance, verifying vacancies and then seeking 'authority to recruit' from PSMD. Due

to inefficiencies and bureaucratic delays in current recruitment systems the MoH has often been unable to recruit health workers for all the funded positions on the Establishment. For example the MOH received authority to recruit 1,984 staff in 2007, but by February 2008 had recruited only 1,290<sup>34</sup>. Funding for almost 700 positions had to be returned to the Ministry of Finance.

51. A similar situation could reoccur in 2008/09 as in September 2008 the MoH had still not received the required authority to recruit. As discussed earlier the MTEF 2009-2011 provides additional resources to cover health worker recruitment: an indicative 6,883 medical personnel over the medium term.
52. The Minister of Finance in his 2009 Budget Speech indicated that in 2008, the Government recruited 1,658 frontline medical personnel, bringing the total to 15,349; and that a further 1,970 would be recruited in 2009 at a cost of K25.0 billion. He acknowledged that this number was still far below what is required in the sector, but that the Government is faced with limited output from training institutions as well as having to cope with the effects of the brain drain. To tackle this, he indicated that the Government would continue to provide incentives to retain frontline medical workers in our rural areas.

**Figure 4: Recruitment Process**

1. Steps in the recruitment process:
    - ❖ Treasury authority is sought by the MoH on an annual basis to get financing to recruit a specific number of positions
    - ❖ Once this is granted then the specific posts to filled must be approved by PSMD
    - ❖ The approval process involves number of procedures and steps (outlined below) and once these are satisfied the MoH is given authority to recruit.
  2. The process of getting authority to recruit from PSMD involves the following steps:
    - ❖ Remove the outgoing incumbent's details from the PMEC at central level. This depends on the ability of the district HR officer to report the vacancy in a timely manner and to travel to Lusaka to provide the details to ensure that the PMEC is updated.
    - ❖ A request to fill a vacancy is passed from the facility to the district and on to the provincial office, who passes it on to MoH headquarters
    - ❖ Once the request reaches the MoH it is passed on to a HR officer, who manually verifies that the post is on the Establishment and that it is funded in the current budget. The a letter is prepared and sent by the PS Health to the PS PSMD requesting permission to fill the vacancy.
    - ❖ PSMD checks that the position is vacant on the PMEC and once it is cleared the PS PSMD writes to the PS Health giving approval to fill the vacancy

53. HR staff reported that because of the constraints on the financing available for PEs they sometimes delay recruitment. This reduces the amount expended on salaries and other PE related costs in the early part of the financial year and this funding can then be used to recruit additional numbers of staff in the latter part of the financial year (i.e. 2,000 HWs x 3 months' salary = 500 HWs x 12 months' salary) . Once positions are approved on the establishment and

<sup>34</sup> Undated document entitled 'Recruitment and Placement of Staff in the Health Sector'

the staff confirmed on the payroll, we were informed that financing for their salaries is secured for subsequent years. However, there is the risk that graduates may be lost to the system by adopting this strategy and the current MTEF projections for 2010 and 2011 do not anticipate any innovation in scaling-up recruitment and increasing recurrent expenditure for PEs.

54. **Attrition:** The data available suggest that the major causes of attrition from the health sector are death, retirement and resignation. In 2005 resignations which represented 13% of the attrition rate in the sector increased to 28% in 2008. These were followed by death and discharges which were 23% and 10%<sup>35</sup>. Anecdotal evidence suggests that voluntary attrition is slowing down and a major contributing factor is the Retention Scheme. The number of doctors who are joining the Retention scheme is increasing and reportedly doctors are being attracted back to Zambia and into the public health system by the incentives and benefits offered by the scheme.
55. A comprehensive pay policy could affect the rate of voluntary exits from the public sector by improving financial and non-financial incentives of public sector employment over time. It was reported that there will be no losses of clinical staff during the restructuring and person to post matching process; administrative staff who do not meet the criteria will be 'retired or redeployed'.<sup>36</sup>
56. **Deployment:** Once the MoH receives Treasury and PSMD authority to recruit the MoH can advertise to fill the funded and approved positions. The advertised positions are not matched to specific vacancies or locations. So when candidates apply they do not know where they will be deployed to and if their application is successful they are given a provisional letter of appointment, informing them where they should report to. Reports suggest that in the past many who were deployed to remote areas either do not go at all or left after a very short time<sup>37</sup>: this may still be the case
57. Controls have since been put in place to ensure that only those who report and remain in post are counted and included on the payroll. One of these controls is the practice of issuing the new recruit with a *provisional* letter of appointment. Once he/she reaches his workplace he/she must complete and return the relevant documents and certificates (qualifications) to PSMD who pass them on the Public Service Commission (PSC). Only when PSC approve and confirm the appointment is the person put on the payroll. While some of these controls are necessary, they make the process more cumbersome.
58. **Retention / redistribution:** Efforts to improve staff deployment and the equitable distribution of health workers have been helped by the introduction of the ZHWRS. There is also the expectation that the person to post matching exercise will ensure that there is a more equitable distribution of staff across the sector. The ZHWRS has been operational since 2003 and the scheme was scaled up to include other cadres and categories of staff in 2007. The scheme offers both monetary and non-monetary individual and institution-based benefits and is aimed at attracting and retaining key health workers in the rural and remote areas of Zambia. The seventy-two districts have been divided them into four separate categories (A, B, C and D), based on pre-determined criteria. The most severely affected categories are C and D, which have a total of fifty-four districts and the focus is on the placement of doctors and other essential

<sup>35</sup> Zambia Public Service Diagnostic Studies: Synthesis Report. Draft report December 2008. Prepared by Theodore R. Valentine, Dale S. Mudenda, with assistance from Joseph Rudumyamheto

<sup>36</sup> Minutes of the 11<sup>th</sup> HR Technical Working Group Meeting. 25 November 2008

<sup>37</sup> Communication with MoH HR Officer

cadres in health facilities falling within these areas. All scheme members sign a three-year contract.

59. The ZHWRS is jointly funded by the GRZ, CPs and through the Basket Fund. Additional funding was mobilized through the Scale-Up Plan. USAID, through the Health Services and Systems Program (HSSP) is providing funding for a number of doctors and other health professionals<sup>38</sup>. The cost of the current scheme is approximately 10 billion ZK per annum<sup>39</sup>. (10,588,224,900). The 2009 Action Plan has a budget line of almost 35 billion (34,778,400,003) for the ZHWRS, which includes the cost of rolling out Phase III and for refurbishing and purchasing staff accommodation<sup>40</sup>

**Table 7: 2007-2008 Funding Estimates for the Zambia Health Workers Retention Scheme**

Financier	Amount in 2007	US\$ Equivalent	Amount in 2008	US\$ Equivalent	Total 2007-2008 in US\$	Total 2007-2008 in Kwacha
GRZ	\$3,468,584	3,468,584				
CIDA	C\$4,000,000	3,736,068	C\$1,500,000	1,401,025	5,137,093	21,781,274,320
SIDA	\$2,500,000	2,500,000	\$2,500,000	2,500,000	5,000,000	21,200,000,000
EU	Euros 6,500,000	8,727,680	Euros 3,500,000	4,699,520	13,427,200	56,931,328,000
RNE	Euros 600,000	805,632			805,632	3,415,879,680
WB	\$3,000,000	3,000,000			3,000,000	12,720,000,000
GAVI	\$1,000,000	1,000,000	\$1,000,000	1,000,000	2,000,000	8,480,000,000
USAID	\$1,450,000	1,450,000	\$1,450,000	1,450,000	2,900,000	12,296,000,000
TOTAL		24,687,973				

Source: "Scale up Plan for the Human Resources Retention Scheme"; Ministry of Health; Republic of Zambia; May 2007

60. Currently the scheme membership comprises Medical Officer, Medical Licentiates, Nurse Tutors, Health Sciences Lecturers, Nurses, Midwives and Environmental Health Technologists working in health facilities which are classified as 'rural' and 'remote' and in several health training institutions throughout the country.
61. In 2008 the allowances paid to the different health cadres on the scheme were increased by between 20 and 100%. This has made the total package available sufficiently attractive to encourage Senior Registrars to join the Scheme. They are being redeployed to second level Provincial Hospitals where they will provide specialised services and care. A portion of the retention budget is also been used to provide allowances for the more senior and experienced doctors to provide mentoring support to junior doctors who are posted to the remote areas.

<sup>38</sup> HSSP contributes financially, managerially and technically to retention of 23 doctors, 33 nurse tutors and 63 other health workers including nurses and clinical officers.

<sup>39</sup> Report – ZHWRS increases as at 28.08.2008 (Excel Spreadsheet)

<sup>40</sup> Draft 2009 MoH Action Plan

**Table 8: 2008 targets and health workers on the ZHWRS April 2008**

Cadre	Targets for 2008 <sup>41</sup>	Included on the Scheme as at April 2008 <sup>42</sup>
Nurses & midwives	400	200
Nurse and other health tutors	200	130
Doctors	150	84
Environmental Health Technicians	250	80
Medical Licentiate	150	12
Clinical Officers	400	10
<b>Total</b>	<b>1,650</b>	<b>516</b>

Source: MTR Report 2008

62. In February 2009 there are 656 health workers on the Scheme, comprising 100 Medical Doctors (including District Health Directors), 28 Medical Licentiates and 528 other health workers<sup>43 44</sup>. There are another 50 applications being processed for inclusion on the scheme and with the launch of Phase III in March 2009 it is expected that there should be a significant increase in numbers as health workers in Category C and D district hospitals (e.g. registered nurses, pharmacists, laboratory technologists, physiotherapists, radiologists etc.) will be eligible to apply.

**Table 9: Comparing the ZHWRS to Health Budgeted Aggregates in 2008**

ITEM	AMOUNT (in Zambian Kwacha)	Share of Personal Emoluments	Share of Human Resources Funding	Share of Total Health Sector Funding
ZHWRS	61,757,698,210	65.08%	24.97%	3.76%
Personal Emoluments	94,892,169,147	100%	38.37%	5.78%
Total HR Budget	247,283,264,555		100%	15.07%
Total Health Budget	1,640,625,74,178			100%

Source: Ministry of Health; Republic of Zambia; Action Plan 2008; February 14 2008

63. The MTR noted that while the focus on improving staffing levels and recruitment is critical it needs to be balanced with an equal focus on managing and improving the performance and productivity of the existing workforce (both formal and informal health workers). Recent studies found that staff absenteeism and tardiness were affecting productivity and performance<sup>45</sup>. These findings and those of the ongoing study on health worker productivity (World Bank

<sup>41</sup> MOH (2008): Scale up Plan for the Human Resources Retention Scheme

<sup>42</sup> Extracted from MOH (2008): Rationale for the Increase of Monthly Retention Allowances for Members on the ZHWRS

<sup>43</sup> Minutes of the 11<sup>th</sup> HR Technical Working Group Meeting, 25 November 2008 and update on progress from HR Department at the HRH TWG meeting January 22 2009

<sup>44</sup> Communication with HR Department February 2009

<sup>45</sup> World Bank (2007?) Zambia Public Expenditure Tracking and Quality of Service Delivery Survey in the Health Sector. Findings and Implications

funded) should provide information that could be used to develop appropriate interventions to address these issues.

64. Job descriptions have been developed for all the positions in the new structure and these await PSMD approval. The fact that qualifications and person specifications contained in the job descriptions were used to match people to posts should help to address the numerical, skills/skills mix and distribution imbalances that exist across the sector. The MoH has provided training to provincial level staff on the Performance Management Package and will continue in 2009 to develop capacity to manage a decentralised performance management system<sup>46</sup>.
65. **HRH Development.** In 2008 support was provided to interventions and activities to strengthen the production of health workers and the scale up of pre-service training. The National Training Operational Plan was developed in consultation with all 39 health training institutions in Zambia and provides updated training output targets for each cadre. Each of the training institutions has now developed a costed Institutional Training Plan outlining how and what resources are required to achieve the training targets. The data collected on each of the pre service institutions should be captured and a Training Information Management System (TIMS) developed. As the institutions implement their operational plans routine monitoring information should be collected and The TIMS updated and maintained.
66. Bureaucratic constraints have constrained the planned infrastructural development of the institutions and many still have inadequate equipment, materials, and staffing to achieve increased intakes and output targets set in the plans. The GNC is already reporting that student failure rates have increased and that attrition from pre-service training is rising.
67. An In-Service Training (IST) Coordination Strategy developed with support from HSSP in 2005 has never been implemented. It is important to ensure that IST and Continuing Professional Development (CPD) strategies and plans keep pace with and are aligned with global development and initiatives and that IST/CPD interventions equip health workers with the necessary knowledge, skills and competencies to effectively undertake evolving and expanding roles and forms of service provision.
68. Many CPs fund area based IST/CPD programmes and predominantly support national health programmes such as HIV/AIDS, TB, Reproductive and Child Health, malaria and other preventive programmes. Others, including PEPFAR funded organisations, work directly with and/or provide funds directly to provinces and districts for specific training interventions. Reports from personnel with the PEPFAR support programmes suggest that there is a high level of investment in and support to in-service training but that interventions are; uncoordinated and fragmented; are not adequately aligned with and supportive of MoH plans and priorities, and; may be contributing to increased staff absence.
69. **Monitoring & Evaluation.** The development of an M&E system to track progress in implementing HRH interventions is one of the key strategies in the HRH Strategic Plan but as the MTR noted a system has not yet been developed. The development of a M&E framework for the HRHSP has been included in the Annual Action Plan for the HR Department in 2007, 08 and 09 action plans but it is unclear what progress has been made with this activity. Targets and

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<sup>46</sup> MOH 2008 Narrative Plan

indicators will need to be developed to monitor the implementation of the Training Plan, the Retention Scheme and the roll out of the Performance Management System.

70. Currently, the completion of Joint Annual Reviews and adoption of the report serves as the benchmark for disbursement of donor funds. But as the MTR noted the NHSP indicators and reporting system are weak and do not provide an effective results based framework for the timeframe of the NHSP and for annual priority setting monitoring and evaluation. However this may be addressed through the common health sector performance assessment Framework that is currently being developed.

### 3 PEPFAR and DFID – supporting actions.

71. The TOR requested the assignment consider the following three elements with respect to PEPFAR and DFID support:
- ❖ Review current support for HRH by PEPFAR and DFID and make specific recommendations on how both organisations might increase the impact of their support on HR capacity building.
  - ❖ Review DFID and PEPFAR country assistance plans & identify future opportunities for HRH support, both direct and indirect,
  - ❖ Review results of the initial PEPFAR-DFID HRH meeting in Addis Ababa and consider progress made, documenting the extent of current PEPFAR support to health system strengthening.
72. Noting the modalities of the respective DFID and PEPFAR programming (i.e. *horizontal* versus *disease focused*) and the scope of interventions funded through the latter, the following section inevitably offers a longer analysis of PEPFAR initiatives.

#### 3.1 PEPFAR

73. **Overview.** Zambia is one of 15 focus countries supported by PEPFAR programming. Country activities and the subsequent results make a significant contribution to the overall success in attaining the original “2-7-10” targets for Treatment, Prevention and Care (TPC) (see box below) that PEPFAR set itself to achieve by September 2009<sup>47</sup>.

**Figure 5: PEPFAR Legislative Targets: “2-7-10”**

**“2” - Support treatment for 2 million people living with HIV/AIDS by 2009.** The achievement of this target will be measured by the number of individuals receiving antiretroviral therapy (Indicator #11.4) through FY 2008 funding. It will be counted at the end of the 12-month reporting period in FY 2009 given that most FY 2008 funding will be spent in 2009. (This measure is not cumulative over 5 years). This target includes both downstream and upstream counts.

**“7” - Prevent 7 million new HIV infections by 2010** The U.S. Census Bureau will be modelling achievement of this target based on surveillance data. The U.S. Census Bureau will periodically produce estimates towards the achievement of this target based on new surveillance data reported by countries. Countries do not need to invest country funds in modelling infections averted.

**“10”- Support care for 10 million people infected and affected by HIV/AIDS, including orphans and vulnerable children, by 2009** The achievement of this target will be measured by the number of individuals receiving palliative care (Indicator #6.3) and OVC served (Indicator #8.1) through FY 2008 funding. It will be counted during the 12-month reporting period in FY 2009 given that most FY 2008 funding will be spent in 2009. (This measure is not cumulative over 5 years). This target includes downstream and upstream counts.

Source: PEPFAR (2007) Indicators Reference Guide. FY07 Reporting, FY08 Planning<sup>48</sup>

74. In the Fifth Annual Report to Congress (January 2009) results through to the end of September 2008 indicate that more than 2 million people are already supported with life-saving antiretroviral treatment (ART) in PEPFAR's 15 focus countries. This achievement, ahead of the

<sup>47</sup> Note that these targets have since been revised to “3-12-12” in the PEPFAR Reauthorisation in June 2008

<sup>48</sup> Available online at: <http://www.pepfar.gov/documents/organization/81097.pdf>

target date, is of particular note. When PEPFAR was first announced, it was estimated that only 50,000 people were receiving treatment for HIV/AIDS in sub-Saharan Africa<sup>49</sup>.

75. Zambia is a leading contributor to the attainment of the PEPFAR target. In July 2005 the GRZ changed its ART policy to provide free ART services for all Zambians through public health facilities, removing a significant barrier to the scaling-up. PEPFAR has subsequently supported the GRZ in this initiative with a rapid scale-up of treatment programmes and support to the supply chain management system (SCMS).
76. In 2007, this support was recognised by researchers at the Centre for Global Development as contributing to the expansion of one of the most rapid scale-up treatment programs on the African continent; increasing the number of HIV/AIDS patients on ART from 6,000 in 2003 to 81,000 by the end of 2006<sup>50</sup>. The 2008 MTR also noted the roll-out of ART provision as a major success in Zambia, noting the leading contribution of the U.S. Government (USG).<sup>51</sup>.
77. In the latest 2008 figures released by PEPFAR, coverage rates have increased at a rate four times greater than the average in the focus countries; from 0.6% to 51% in the period 2003 - 2008.<sup>52</sup> 167,500 Zambians now benefit from this expanded coverage<sup>53</sup>, already surpassing the original target of 120,000 by 40%<sup>54</sup> and prompting a revised target of 228,450 by September 2009<sup>55</sup>. Similar success is also noted in the number of individuals receiving care in focus countries, where Zambia is reporting 118% attainment against the initial target of 600,000<sup>56</sup>.
78. To enable the expansion of activities and the consequent successes in the TPC programmes there has been a year-on-year increase in PEPFAR funding. This has risen from \$81.6 million in fiscal year (FY) 2004 to \$269.2 million in FY 2008 and will accumulate to over \$1.1 billion once FY 2009 appropriations are confirmed (current estimates for the 2009 Country Operational Plan (COP) are premised on similar funding to 2008).

**Table 10: Zambia Budget Allocations (2004-2008)**

Fiscal Year	Field Dollars	Central Programs	Funding - US \$ Million
Oct 03 – Sept 04 (FY 04)	57,933,801	23,728,609	81,662,410
Oct 04 – Sept 05 (FY 05)	102,745,140	27,343,465	130,088,605
Oct 05 – Sept 06 (FY 06)	118,914,000	30,108,153	149,022,153
Oct 06 – Sept 07 (FY 07)	184,811,047	31,201,733	216,012,780
Oct 07 – Sept 08 (FY 08)	234,914,000	34,332,552	269,246,552
<b>Totals</b>	<b>699,317,988</b>	<b>146,714,512</b>	<b>846,032,500</b>

Source: PEPFAR Operational Plans for FY2008, FY2007 and FY2006.

<sup>49</sup> PEPFAR (2009) Celebrating Life: Latest PEPFAR Results. January 2009.

<http://www.pepfar.gov/documents/organization/115411.pdf>

<sup>50</sup> Oommen (2007) Perspectives on PEPFAR from Lusaka: Balancing Successes with Challenges. 05 July, 2007.

[http://blogs.cgdev.org/globalhealth/2007/07/perspectives\\_on\\_pepf\\_1.php](http://blogs.cgdev.org/globalhealth/2007/07/perspectives_on_pepf_1.php)

<sup>51</sup> MTR (2008), p.21.

<sup>52</sup> PEPFAR (2009) Celebrating Life: The U.S. President's Emergency Plan for AIDS Relief. 2009. Annual Report to Congress. <http://www.pepfar.gov/documents/organization/113827.pdf> p.14.

<sup>53</sup> *Ibid*, p.46

<sup>54</sup> *Ibid*, p.48

<sup>55</sup> *Ibid*, Almost double the initial projections.

<sup>56</sup> *ibid*, p.51

79. The 2008 funding of \$269.2 million, approximately \$23 per capita<sup>57</sup>, almost matches the GRZ health sector budget of \$272.9 million and has been instrumental in raising the total health sector funding from all sources from less than \$200 million in 2005 to its current levels<sup>58</sup>.<sup>59</sup> This is a positive outcome in volume of financing, but the global harmonisation and alignment agenda also prompts consideration of whether the level of PEPFAR funding and the services that are consequently supported are the most appropriate and sustainable interventions. Further, it raises the issue of the 'source-to-actual-use' which the CGD report highlights as a major question in the efficiency of PEPFAR programming.
80. The allocation of PEPFAR resources and subsequent implementation modalities highlight the scale of support and the inherent coordination and alignment challenges. USAID and CDC are the government agencies in receipt of the majority of the resources and over 30 Prime Partners and 220 Sub-Partners are implementing activities. This includes extensive engagement with national faith-based organisations and civil society to support services and coverage in all 9 Provinces and 72 Districts as well as direct agreements with the MoH, Provincial Health Offices and other parastatal organisations; including some direct support to pooled donor funding arrangements ("basket" funding) in both the health and HIV/AIDS sectors. As evident in both Mozambique and Kenya the volume of implementing partners, the inherent differences between USAID and CDC programming arrangements, the flexibility to innovate and the mechanisms for funding are all part and parcel of the coordination and alignment challenges.

**Table 11: Zambia FY 2008 Budget by Agency Receiving Funds**

USAID	HHS	DOD	STATE	PEACE CORPS	TOTAL
153,983,872	99,398,580	7,605,000	4,371,000	3,888,100	269,246,552

Source: PEPFAR (2008) Fiscal Year 2008: PEPFAR Operational Plan. June 2008

81. As evident above, one of the key elements of the PEPFAR programme is its commitment to the scaling-up of antiretroviral treatment, including treatment for paediatric patients. This is part of an approach led by the NAC and in collaboration with the Global Fund to coordinate the purchase of antiretroviral drugs (ARVs) for the public sector. In Zambia this includes an agreement where the Global Fund will purchase appropriate, approved first line regimens (comprised of generic ARVs), while the USG will procure second line ARVs, paediatric formulations, and one first line drug<sup>60</sup>. PEPFAR has thus allocated \$25-\$27 million on ARVs in each of the last three years<sup>61</sup> excluding associated support to ARV services (i.e. the supply chain management system) and Laboratory infrastructure as part of broader systems strengthening. As a percentage of the total funds for Zambia's Treatment, Prevention and Care budget this equates to 19.6% (FY06), 14.2% (FY07) and 12% (FY08) with the decrease in percentage masking the increasing annual expenditure year-on-year.

<sup>57</sup> Based on WHO (2006) population estimate of 11.7million.

<sup>58</sup> World Bank (2008), NHSP Cost and Financing Gap. p.5, p.23.

<sup>59</sup> Note that the PEPFAR and GRZ fiscal years differ and hence calculations on calendar year contributions are not readily available. The U.S. government's fiscal year begins on October 1 of the previous calendar year and ends on September 30 of the year with which it is numbered. "FY09", sometimes written "FY08–09" refers to 01-Oct-08 to 30-Sept-09.

<sup>60</sup> PEPFAR (2008) Fiscal Year 2008: PEPFAR Operational Plan. June 2008. p.120

<sup>61</sup> \$27,212,000 in FY2008; \$27,035,895 in FY2007; \$25,621,555 in FY 2006.

82. Building on the GRZ's sustainability analysis of HIV/AIDS services - supported by USAID<sup>62</sup> – projections for the remainder of the NHSP suggest that there is an anticipated shortfall in funding from all internal and external sources/commitments for 2009 and 2010. The MTR suggests that Zambia 'will require an additional US\$ 45-60 million for ARVs over the duration of the NHSP in order to sustain the ART scale-up programme plus the switch-rate from current d4T-based regimens to new TDF-based regimens'<sup>63</sup> and that 'the level of resource commitment may be reaching unaffordable levels, especially in light of big-ticket items such as the cost of....ARV and second-generation ARV drugs'<sup>64</sup> This is echoed by the recent cost and financing gap analysis undertaken by the World Bank which highlights projected shortfalls to scale-up health services in all three of the proposed costing scenarios and additional information communicated during the course of this assignment that the budget gap for ARVs may yet be higher than MTR predictions; increasing to \$90m in 2009 and \$123m in 2010<sup>65</sup>. The Round 9 application to the Global Fund has an emphasis on addressing this financing gap.
83. **Alignment with government planning.** PEPFAR programming and implementation benefits from a number of in-country mechanisms to align activities with the health sector (as per the NSHP) and HIV/AIDS priorities (as per the National AIDS Council's Strategic Framework, NACSF).
84. The PEPFAR Reauthorisation (2009-13) includes new emphasis on 'Partnership Compacts' with national partners. U.S. Government (USG) agencies are presently undertaking this exercise in Zambia (a draft was prepared in October 2008), building on earlier bilateral agreements and the USAIDS's signatory to the 2006 Memorandum of Understanding (MoU) between the GRZ and international Cooperating Partners (CPs). Ongoing engagement with Zambia's Country Coordination Mechanism (CCM) for the Global Fund and participation in the CP's Health Sector Committee (which is currently developing an addendum to the 2006 MoU to include the country compact principles promoted by the International Health Partnership) are informing this USA/Zambia Partnership Compact. Prevention, sustainability and 'Zambianisation' are key principles in PEPFAR's approach and the outcome will subsequently support an updated USAID Country Strategic Plan for Zambia to replace the current 2004-2010 plan.
85. In addition, all USG agencies participate in internal coordination mechanisms including 14 thematic technical working groups (TWG). Human Resources for Health (HRH) is a component of the TWG for Health Systems Strengthening (HSS). These TWGs promote cross-agency alignment and enable the division of labour so that all Provinces and Districts are supported by PEPFAR programming.
86. At the Provincial and District levels there are further mechanisms to support planning and alignment. Examples of partners providing technical assistance and PEPFAR funds to support and subsidise the planning forums and processes were offered during the course of the assignment. Whilst the GRZ planning calendar and that of PEPFAR do differ, there is general satisfaction from USG staff and implementing partners that alignment is an increasing component of PEPFAR programming.
87. The existing alignment is being further enhanced as USG agencies embark upon an intensive period of new PEPFAR procurement. Many of the current agreements with Prime Partners will

<sup>62</sup> The study was supported by the PEPFAR HSSP programme in Zambia. Further background is available at the USAID Health Systems 20/20 website: <http://www.healthsystems2020.org/section/hiv/healthfinancing/costing>

<sup>63</sup> MTR (2008) p. 108

<sup>64</sup> *Ibid*, p.154

<sup>65</sup> Communicated by Kate Schroeder, Country Director, Clinton Foundation.

be coming to the end of their five-year duration in 2009. Some new calls for proposals are already in the public domain and include criteria that interested parties must demonstrate alignment with Zambia's NHSP.

88. There are however, still some concerns expressed by government and parastatal organisations that the existing guidance and reporting mechanisms have yet to permeate the behaviour of all implementing partners. The 2008 Mid Term Review made specific reference to this:

*"The MOH faces particular challenges with the coordination of the PEPFAR supported partners. The PEPFAR system operates as a parallel system in Zambia and does not automatically take the MOH system requirements into account (in terms of planning, reporting, communication, coordination and collaboration). Overall, there is concern at National level that the PEPFAR modality leads to an increased workload for the health workers in the health facilities".<sup>66</sup>*

89. Similar opinions were offered during this assignment. Of note were the reported inconsistencies between data collated by PEPFAR, the NAC and the MoH on HIV/AIDS interventions and the lack of reporting and coordination between PEPFAR partners and the AIDS Task Forces at the District and Provincial levels. This is consistent with an earlier study on PEPFAR programming in Zambia which reported that an information system for tracking antiretroviral treatment programs was initially designed to be integrated into the MoH management information system but now functions as a stand-alone system for PEPFAR<sup>67</sup>
90. Given the scale of PEPFAR activities, it is not unexpected that there are some reporting and performance characteristics that are imperfect. Oomman et al (2007) observe that "*PEPFAR and others are responding to a pretty difficult HIV/AIDS situation in an environment where systems are weak [and] capacities are generally constrained*".<sup>68</sup> However, irrespective of the latitude offered by Oomman et al, the perception and continuing reference to the non-alignment of PEPFAR partners warrants ongoing attention to ensure further improvements.
91. **HSS and HRH.** From a review of the COP and discussions with USG staff and key implementing partners<sup>69</sup> it is evident that PEPFAR programming is contributing to broader health systems strengthening (HSS) and HRH. Numerous examples of HRH interventions under the categories of planning, management and development are apparent. Some of these are discussed below.
92. **Planning.** PEPFAR-funding supports direct agreements with the MOH and others (i.e. Provincial Health Offices, the University Teaching Hospital (UTH), the Tropical Disease Research Centre (TDRC)) to support planning processes at the facility, district and provincial levels. In addition, USG agencies conduct internal reviews to support planning, monitoring and evaluation – and the NAC expressed particular appreciation at being invited to participate in these planning forums and assist in aligning PEPFAR activities with the NACSF (2006-10).
93. The example of CDC's support to the Western Provincial Health Office (WPHO) emphasises the planning approach within one of these direct agreements. The overall approach is to link PEPFAR programme areas, including counselling and testing, ARV services, laboratory infrastructure,

<sup>66</sup> 2008. MTR Final Report. p.141

<sup>67</sup> Oomman et al (2008) Seizing the opportunity on AIDS and health systems. Center for Global Development. p.3

<sup>68</sup> Oomman (2007) Perspectives on PEPFAR from Lusaka: Balancing Successes with Challenges. 05 July, 2007. [http://blogs.cgdev.org/globalhealth/2007/07/perspectives\\_on\\_pepf\\_1.php](http://blogs.cgdev.org/globalhealth/2007/07/perspectives_on_pepf_1.php)

<sup>69</sup> A focus group discussion was held on 16 January with selected PEPFAR partners.

condoms, outreach services etc. Funding is targeted to build the WPHO capacity to coordinate and oversee services in the province, strengthen planning and coordination through monthly and quarterly review meetings and oversee and expand the associated training activities. Outreach and community-based services that are initiated by PEPFAR support are to be subsequently incorporated into the District and Provincial Health Plans submitted to the MoH. Strategic information is collected, aggregated, and analyzed for monitoring and evaluation purposes, supported by data entry clerks and a data management specialist. Technical assistance focuses on supportive supervision and coordination to maximise planning and resource utilization in HRH and service delivery.

94. PEPFAR funding is also utilised to develop management information for HSS and HRH planning. A range of activities is supported, demonstrating the current capacity and the potential for further application in 2009/2010. This includes sentinel surveillance, the HIV Prevalence Survey and support to the 2007 Zambia Demography and Health Survey (ZDHS). Collectively this work is guiding national and provincial level evidence-based planning, monitoring and evaluation, and advocacy efforts. Capacity building of local researchers to enhance their skills in data analysis is incorporated. Of note is the option for the various data sets to be linked with geo-referenced codes and to perform exploratory analyses using Geographic Information Systems (GIS) tools. This raises the possibility for the existing capacity of PEPFAR-supported programmes in disease surveillance (identifying prevalence, service coverage etc) to become an essential component of the workforce surveillance and planning for the next HRH Strategic Plan.
95. Internal exercises include an assessment of the number of PEPFAR-supported health workers in Zambia (in 2008) and a comprehensive review of Community-Based Services (CBS) undertaken by USAID. The former identifies nearly 15,000 health workers supported through PEPFAR programming across a range of clinical, community and management categories. Background data reveals multiple models of remuneration including salaries linked to MOH pay and benefit scales, or NGO scales<sup>70</sup>, non-financial incentives and various allowances (transport and food). Unfortunately the data does not indicate the PEPFAR investment related to the 15,000 health workers supported through USAID programming (and which does not count all PEPFAR investment), but we would anticipate this as a significant annual investment in HRH and service delivery which would benefit from further review going forward. .
96. The CBS review, capturing data in the reporting period to September 2008, is an excellent assessment of PEPFAR support in all districts, constituencies and wards, including mobile outreach services<sup>71</sup>. Both data sets are available for planning and HRH coordination purposes, with the CBS review already linked to GIS mapping by District. With minor adjustments both data sets could enhance national planning initiatives on CBS and Community Health Workers (CHWs).
97. **Management.** Other positive examples of PEPFAR programming include support to HRH Management. The Health Services and Systems Programme (HSSP) has a particular focus to support the Ministry's retention scheme to attract and retain critical staff in areas of greatest need and provide support in accreditation, performance improvement and quality assurance.

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<sup>70</sup> It has been reported that NGO salaries in PEPFAR-funded programmes in Zambia , have, in some cases, pulled staff away from general public health services into disease interventions. (Oomman et al, 2008, p.6). The current data did not allow for a review of these statements but interviews during the assignment suggested that migration to the NGO sector is a factor in public sector attrition.

<sup>71</sup> This includes analysis by each of the PEPFAR programme areas.

98. The Zambian Health Workers Retention Scheme (ZHWRS) discussed earlier promotes a package of allowances and incentives to recruit and retain key health workers in rural health facilities and disadvantaged training institutions. The scheme builds on the success of the Ministry's 2003 initiative developed with the Royal Netherlands Government and which now has support from other CPs and basket funding.
99. PEPFAR is enabling the expansion of the retention scheme with management support and funding to engage 119 physicians, nurse tutors, nurses, clinical officers, pharmacists and lab technicians in the scheme. Nearly \$1m is made available to the MoH and the Districts (or approved sub-contractors engaged by the District) to enable payments to the individual health workers and housing improvement grants. The support programme is aligned to government systems with funds paid directly to the MoH and the MoH making payment to the public sector employees. It is a positive example of how PEPFAR funding can be integrated into systems approaches and HRH Management at the country level. Future work can now concentrate on addressing, with all participating partners, the necessary enhanced productivity that the scheme aims to achieve. This is relevant to the health worker productivity at facility level (Is the retention scheme generating additional outputs?) and secondly the reduction of transaction costs to process partner contributions to the scheme. Further PEPFAR alignment to the preferred funding mechanisms, reducing additional reporting requirements, would be of value.
100. Another example offered is the PEPFAR support to policy implementation, supervision and accreditation for some HIV/AIDS services. This is particular to PEPFAR's support to scaling-up ART and has included collaboration with the MOH and MCZ to develop an ART accreditation plan, agree minimum standards with WHO and others, and support the accreditation of public and private sector providers. Ongoing work supports the MCZ, as the responsible agency, to monitor, document and improve the overall functioning of the system (as an example of 'HRH Development'). Supporting the MoH to engage the private sector as accredited service providers, noting the shortage of public sector capacity and health workers, offers opportunity for replication and expansion.
101. **Development.** The majority of PEPFAR-funded interventions in Zambia are within HRH Development and most notably In-Service Training (IST) for various health cadres and particularly Community Health Workers (CHWs). Numerous examples were offered supporting extensive community based services and a comprehensive geographical coverage resulting.
102. The IST emphasis is perhaps by default of the PEPFAR legislation and the indicators for reporting and planning purposes<sup>72</sup>. The Emergency Plan Program-Level Reporting Framework identifies 'number of people trained' as one of four categories. Of the 48 Program-Level Indicators, 17 (or 35%) of these concentrate on measuring individual training participation. Only 4 indicators measure organisational capacity building (see Annex 3). An example of a training indicator is provided below:

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<sup>72</sup> See PEPFAR (2007) Indicators Reference Guide. FY07 Reporting, FY08 Planning. Available online at: <http://www.pepfar.gov/documents/organization/81097.pdf>

**Figure 6: Training Indicator – PMTCT services.****1.4 Number of health workers trained in the provision of PMTCT services according to national or international standards**

**Rationale/What It Measures:** The intent of the indicator is to measure progress toward a cadre of professionals trained in PMTCT service delivery according to national or international standards.

**Definition:** Training refers to new training or retraining of individuals and assumes that training is conducted according to national or international standards when these exist. A training must have specific learning objectives, a course outline or curriculum, and expected knowledge, skills and/or competencies to be gained by participants.

**Interpretation/ Strengths and Weaknesses:** This indicator does not measure the quality of the training, nor does it measure the outcomes of the training in terms of the competencies of individuals trained, nor their job performance. This indicator simply measures number trained in PMTCT as opposed to the percent of health facilities with trained staff, which may be measured through health facility surveys.

Source: PEPFAR (2007) Indicators Reference Guide. FY07 Reporting, FY08 Planning

103. Whilst improved skills and competencies are not measured within the training indicators, the TPC success in Zambia described earlier is arguably correlated with the enhanced capacity of health workers (public, private, military, NGO, Faith-based, community etc) resulting, in part, from the IST supported by PEPFAR in recent years. For instance, a study in 2003 noted that a large percentage of HIV/AIDS services are provided by volunteers and lay counsellors (31%) and that the performance standards achieved by these groups was equal to other professional cadres<sup>73</sup>.

104. Nonetheless, PEPFAR partners are aware that there is room for further improvement in the coordination and delivery of IST programmes: ensuring it is demand-led rather than supply-led. This includes efforts to develop comprehensive curriculum related to an essential package of health care, working with the NAC more closely to develop clinical-based training programmes and courses aligned with the MoH's In-service Training Plan<sup>74</sup> (discussed earlier), enhanced coordination in each District to maximise training resources and scheduling, standardising approaches and incentives, replacing 'hotel-training' with 'on-site' support, and better mechanisms to track individual training needs and accomplishments (i.e. a TIMS). The general consensus from partners points to an opportunity to have greater allocative efficiency with PEPFAR resources and to address the 'patchwork of uncoordinated services' that can occasionally arise in vertical approaches<sup>75</sup>. New PEPFAR Calls for Proposals in 2009 could support this.

*"Vertical approaches are likely to be more appropriate if a service is urgently needed but systems are simply too weak and routinely used resources too limited to be able to provide it through the regular channels. However, if such vertical approaches are allowed to proliferate, they are likely to result in a patchwork of uncoordinated services". Atun, RA, Bennett, S and Duran, A (2008) p.15*

105. In addition to IST, PEPFAR is also supporting curricula development in pre-service training (PST); external tutors and lecturers in the School of Medicine (SOM); providing clinical specialists

<sup>73</sup> Huddart, J., Lyons, J. and Furth, R. (2003) HIV/AIDS Workforce Study

<sup>74</sup> MoH (2008) Annual Training and Development Plan. May 2008.

<sup>75</sup> Atun, RA, Bennett, S and Duran, A (2008) When do vertical (stand-alone) programmes have a place in health systems? Policy Brief. WHO. [http://www.euro.who.int/document/hsm/5\\_hsc08\\_ePB\\_8.pdf](http://www.euro.who.int/document/hsm/5_hsc08_ePB_8.pdf) p.15

to support service delivery and professional mentoring in some Provinces; curricula and scale-up of post-graduate degrees, and; the updating of national protocols.

106. An example of the latter is the joint work with UNICEF to update national protocols, as per WHO technical updates and guidelines, pertaining to PMTCT and paediatric antiretroviral therapy services and the subsequent roll-out of new training updates. Support to PST has included curriculum development for Clinical Officers, Enrolled Nurses and Physicians; meeting the priority indicated in the HRHSP<sup>76</sup>. Post-graduate support includes:

- ❖ activities with the Zambian National Blood Transfusion Centre (ZNBTS) where staff are enrolled in a distance-learning degree in blood safety which includes a 4-6 month practical residence in Europe; .
- ❖ support to the SOM in its training of post-graduates in clinical research through the Masters in Medicine (MMed) programme (as per the MoH's In-Service Training Plan)
- ❖ support to the SOM in expanding its Masters in Public Health (MPH) curricula in epidemiology and biostatistics (as per the MoH's In-Service Training Plan)

107. Whilst the HRH Development examples above are all positive (and confirm the scale of PEPFAR capacity support) the findings of this assignment are consistent with a recent cross-country study which suggests that most PEPFAR resources for HRH are spent on existing health workers rather than the training of new graduates and hires. (Oomman et al, 2008, p.6). In this respect PEPFAR Zambia's future reporting against the current HRH Strategic Indicator<sup>77</sup> is anticipated as being very low unless new programming emphasis is introduced at the country level. As one of the PEPFAR focus countries with demonstrated success against other SI's, a lack of progress in this area will be notable. New programming emphasis has to be consistent with the HRHSP and support the MoH to get the *right* number of health workers with the *right* skills in the *right* place. We do however, recognise that an enhanced HRH emphasis will have an opportunity cost against existing programming and priorities and that trade-offs are likely if no new funding is approved. This is discussed further in section 4.

108. **Financing & Disbursement.** The budgeting, financing and disbursement of PEPFAR programming in Zambia follows the standard guidelines for the 15 focus countries. Feedback from Prime Partners during the course of the assignment affirmed that the systems adopted by both USAID and CDC are invariably conducive to rapid programme implementation with the appropriate checks and balances for governance, transparency and execution. CDC in particular, was noted to have made major improvements in their own internal systems since PEPFAR's launch.

109. As in the earlier country studies in Mozambique and Kenya, there are occasional examples which lead to the interruption of the normal procedures, i.e. where sub-partners may change staff who are the formal signatories, but overall the procedures were seen as having a positive impact on increasing the capacity and management systems of implementing agencies (both Prime partners and sub-partners). Given that there are PEPFAR initiatives within Zambia with the particular mandate to build national capacity to access and execute PEPFAR funds this feedback is encouraging and augurs well for the priority of '*Zambianisation*'.

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<sup>76</sup> Calling for urgent revision to curricula to incorporate new information on priority health services such HIV/AIDS (p.5)

<sup>77</sup> To measure results against the target of 140,000 new health care workers in the PEPFAR Reauthorisation.

110. In those examples where PEPFAR is engaged directly with the MoH or parastatal organisations (i.e. the retention scheme), there is acknowledgement of the additional administrative responsibilities when compared with funds allocated directly to the ‘basket’ by some other donors. The positives of the approach, aligning with government priorities and resourcing public sector organisations to implement them is welcomed. These appear to outweigh the administrative checks and balances in the examples provided but this should not prevent further exploration within the ‘Partnership Compact’ between USG and GRZ to reduce additional reporting requirements. Contractual instruments such as the ‘Implementation Letter’ or ‘Earmarked Funding’ provide for longer-term financial commitments direct to a host country government/institution. An exploration of the steps needed to apply these existing USG tools could be of real value to scaling-up the retention scheme and improving its effectiveness.

111. **Progress since Addis Ababa (Jan 2008):** Discussions and Key Actions Resulting from the meeting in Ethiopia are available as Annex 4. The examples of PEPFAR support to HRH described above demonstrate alignment with many of the Key Actions: i.e. in supporting staff housing; retaining clinical tutors; developing public private partnerships; some direct funding; expanding the retention scheme, and; expanding HRH information systems. From this assignment, it is evident that overall PEPFAR programming for HRH is contributing to government priorities at many levels. Based on the examples offered, those areas which are less evident are: a) the production of new health workers and; b) the redistribution and productivity of existing health workers. For the former, it probably requires a shift in programming emphasis whereas the latter could be addressed through enhanced support to the retention scheme.

### **3.2 DFID**

112. As one of three CPs who participate in the *Troika* for the health sector (alongside WHO and SIDA) DFID will shortly be assuming the lead coordination role. This comes at a pivotal time as the MoH and many CPs seek to finalise an addendum to the 2006 MoU between the MoH and CPs that will incorporate the principles of the IHP Country Compact<sup>78</sup>. In parallel, DFID is currently preparing a revised Country Assistance Plan (CAP) that will incorporate the priority actions outlined in the addendum as well as the intended utilisation of projected funding for Maternal Health (circa £5m) and IHP-related activities (circa £6m) in the period 2009-12 (note that these figures are yet to be finalised). DFID’s role in supporting harmonisation and alignment, IHP principles, broader HSS and HRH (with active participation in the MoH’s TWG) will therefore have additional leadership responsibilities in the imminent future.

113. DFID health and HIV/AIDS funding to Zambia has not only increased significantly in recent years (from £3.1m to £31.9m per annum) but has been influenced by both global thinking on aid harmonisation and alignment and the GRZ’s introduction of General Budget Support (GBS) as a funding mechanism in 2003<sup>79</sup>. Subsequently, DFID has progressively reduced its percentage of funds for project support and funding is, for the most part, channelled through GBS in keeping with the GRZ preference (see Table 12 below). Funds are available through the National Treasury to allocate directly to the MOH to implement both the HRH Strategic Plan and the NHSP. Some

<sup>78</sup> IHP (2008) Guidance Note. Development of a Country Compact.

<http://www.internationalhealthpartnership.net/pdf/IHP%20Guidance%20CC.pdf>

<sup>79</sup> ‘Since 2003 GRZ has made a conscious decision to move towards harmonization and alignment of donor contribution to national development through the adoption of the General Budget Support (GBS) mechanism. This saw a gradual shift by health sector partners towards GBS with some partners earmarking their support as Health Sector Budget Support (SBS) within the GBS approach’. MTR (2008) p. 129

DFID funding is ring-fenced for the ‘user fees removal’ replacement budget<sup>80</sup> so considered Sector Budget Support.

**Table 12: Trends in DFID Health and HIV/AIDS funding, 2002-7.**

figures in £m	2002	2003	2004	2005	2006	2007
Project funds	1.5		1.5	4.0	4.0	4.0
	--Family Planning--	-----HIV/AIDS – JFAs-----				
Health SWAp	1.6	5.0	5.0	4.0		
General Budget Support (GBS) / Sector Budget Support (SBS)					20.0 2.9	25.0 2.9

Source: adapted from DFID (2008) DFID funding in Zambia (Health/HIV). PowerPoint presentation, Dyness Kasungami

114. Other activities are provided through the Joint Financing Arrangement (JFA) with the NAC and Civil Society Organisations (CSOs) including the £20 million investment in the Strengthening the AIDS Response Zambia (STARZ) programme in the period 2004-09, of which £3.9 million is allocated to the Civil Society Fund with nearly 50% channelled through the Zambia National Aids Network (ZNAN) as accountable grants<sup>81</sup>. All funding is therefore aligned with government planning and priorities. There is an element of technical assistance, but in such instances these are at the request of the MoH and developed jointly with the responsible department (i.e. previous TA to support the development of the HRHSP 2006-10).

115. The mechanisms and utilisation of new funding for IHP-related activities is to be finalised, but conceivably can be channelled through the most appropriate mechanism once priorities are established. At the request of the former Permanent Secretary, some of DFID’s future support to HRH may be targeted to support the scaling-up of the health workforce as prioritised in the HRHSP. This includes the option for a *Zambia-UK Health Workforce Alliance* to support very specific needs for additional clinical tutors in the period 2009-11. The Zambia-UK Alliance is anticipated to bring together health workers, health and education institutions, NGOs and private sector organisations in Zambia and the UK. A visiting team<sup>82</sup> was undertaking an assessment of options during a similar period to this assignment and presented outline options at the HRH TWG on 22<sup>nd</sup> January. These are available in a separate report and not repeated here<sup>83</sup>.

116. DFID, through their Governance team, also supports wider public sector activities including ongoing work with the Cabinet Office on Public Sector Management (PSM). DFID and the World Bank represent the CPs on PSM engagement. A ‘Sizing Guide’, reviewing fiscal space, public sector expenditure and personnel emoluments is under consideration with the GRZ as is a ‘Pay

<sup>80</sup> MTR Report 2008. p.130

<sup>81</sup> DFID (2007) Helping a forgotten minority: Disability and HIV/AIDS in Zambia.

<http://www.dfid.gov.uk/casestudies/files/africa/zambia-disability.asp>

DFID (2009) Good health down on the farm in Zambia.

<http://www.dfid.gov.uk/casestudies/files/africa/zambia-hiv-stigma.asp>

<sup>82</sup> DFID Health Resource Centre - comprised of Susana Edjang, Liz Ollier and David Percy.

<sup>83</sup> DFID Health Resource Centre (2009). Development of Proposal for a Zambia UK Health Workforce Alliance. February 2009.

Reform Policy' which is being developed with a TWG composed of cross-government representatives, including the Director of HR from the MoH.

117. WHO has noted that strong inter-sectoral collaboration and inter-Ministerial coordination is an essential factor to achieve further progress against the health MDGs and that "GRZ should continue with the robust scale up of Human Resources for Health (HRH) in various specialties of health with special focus on production, retention and equitable distribution, especially in the next five years with a view to attain the MDGs" <sup>84</sup>.DFID's engagement and the linkages between the health sector and the broader PSM activities therefore offer considerable opportunities for the subsequent roll-out of new GRZ policy and pay reforms and the impetus these will hopefully provide to scaling-up HRH.

118. **Progress since Addis Ababa:** DFID's support to the MoH responds to many of the Key Actions Resulting from the 2008 meeting in Ethiopia. The move to GBS and the additional funds for IHP-related activities underpins the DFID approach to mobilise funding and the flexibility of such funding. Ongoing work within the *Troika* demonstrates the actions underway to implement the IHP principles and secure improved coordination, harmonisation and alignment. HR Management is a key feature in both the health and PSM activities and the recent assessment at the request of the former PS specifically responds to the need to strengthen HRH production systems and the associated infrastructure for staff.

### **3.3 Cooperating Partners**

119. Many other CPs provide support to HRH and HSS in Zambia. We met with a number of agency representatives to appreciate their inputs. Some of these have bearing on the Discussion and Recommendations in Section 4 and are referenced below as additional background.

120. **World Bank.** The WB has a particular emphasis on HRH in Zambia, it being one of the focus countries in the African Human Resources for Health Programme and a participant in the Results-Based Financing (RBF) initiative. Recent studies include:

- ❖ Analyses of the HR-related data yielded by the MOH's 2006 Health Facility Census Zambia supported by JICA (*Completed*);
- ❖ Analyses of HRH-related findings of the Public Expenditure Tracking and Quality of Service Delivery Survey (PET/QSDS), 2005/06 (*Completed*);
- ❖ Evidence and lessons from a study investigating the skill mix of health worker cadres at both primary care and Level 1 hospital settings in Zambia (*Completed*);
- ❖ An assessment of Zambia's public sector fiscal environment and the budgeting processes involved in determining the health sector wage bill (*Completed*);
- ❖ A study investigating health worker productivity levels in Zambia (*Ongoing*);
- ❖ Research aimed at identifying key bottlenecks to the scaling up health worker production (*Ongoing*);
- ❖ Evaluative research investigating the effectiveness of ongoing rural retention schemes (*Ongoing*).<sup>85</sup>

121. There was previously an intention to support a qualitative and quantitative study investigating the actual and potential contributions of CHWs in Zambia. However, the MOH has

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<sup>84</sup> WHO (2008) Cooperating Partners in the Health sector. Issues Paper. November 2008.

<sup>85</sup> World Bank (2008) Zambia HRH Policy Note: Evidence-Based Policy Recommendations. June 2008.

received funding from an alternative source (see WHO below) and this offers an opportunity for the Bank to consider a more detailed assessment of the ZHWRS; exploring the efficiency, effectiveness, sustainability and impact of the initiative and options for policy revision.

122. The RBF activities, funded by the Norwegian Health Result Innovation grant includes: support for the introduction of performance-based financing agreements between the DHMTs and Health Facility (HF) teams to address poor performance of health workers, inefficient use of resources and poor quality of care, and; financial incentives for CHWs and traditional birth attendants (TBA's). <sup>86</sup> 18 Districts in Zambia will participate in the RBF initiative, with approximately \$11m available to support the performance-based payments.

123. **WHO.** The WHO Country Office plays a leading role in the health sector coordination, including HRH. The 2005/6 exercise on 'Counting Health Workers'<sup>87</sup> led to the inclusion of Zambia as an HRH 'crisis' country in the 2006 WHR. The exercise (see Table 13 below) resulted in an indicative shortfall of 1,686 Physicians, Nurses and Midwives (in public, private, military and CSO sectors) against the minimum density of 2.3/1,000 that was used to categorise 'crisis'. Zambia's estimated shortfall was one of the lowest in all of the 57 'crisis' countries suggesting that coordinated actions would quickly address the shortfall and enable it to emerge from this classification.

**Table 13: Zambia: Density of Doctors, Nurses and Midwives (2004)**

Doctors density (per 1000)	Nurses density (per 1000)	Midwives Density per 1000)	Density for the three professions	Estimated shortage for the three professions
0.116	1.741	0.274	2.131	-1686

Source: WHO (2006). Country data collected for the WHO study on 'Counting Health Workers'

124. Current activities provide support in planning, management and development activities. This includes technical guidance across services and curricula development, financial incentives to support the retention of 20 clinical lecturers (\$250 p.c.m) and; ongoing work to establish and institutionalise a National Health Workforce Observatory<sup>88</sup> as per Zambia's adoption of the HRH Resolution at the 46<sup>th</sup> Ministerial Meeting of ECSA in 2008 (see Annex 5)

*A Health Workforce Observatory is conceptualized as a cooperative initiative and partnership involving the public sector, NGO/CSOs, academy, professional associations, international & sub-regional organizations, and development partners. Its aim is to improve human resources development through promoting and facilitating evidence-based policy-making. The functions of an Observatory include: country monitoring and information; research and analysis; sharing and dissemination; promoting national and inter-country networking; and capacity building for HRH. WHO AFRO, 2006.*

125. In addition, WHO is providing country coordination on behalf of the Global Health Workforce Alliance (GHWA) and is in the process of releasing an additional \$200k for Zambia's collaboration with GHWA as a 'Pathfinder Country'. The funding will enable the MoH to conduct a new study on CHWs and CBS with the intention of formulating new guidance on the role, functions and

<sup>86</sup> World Bank (2008) Accelerating the attainment of MDGs 1b, 4 and 5 in Zambia through results based financing. Feb09

<sup>87</sup> WHO (2006) Counting health workers: definitions, data, methods and global results.

<sup>88</sup> See World Health Report 2006 Chapter 6 p. 128 Box 6.2 for more information on Health Workforce Observatories [http://www.who.int/whr/2006/whr06\\_en.pdf](http://www.who.int/whr/2006/whr06_en.pdf)

training of CHWs and hence facilitating a clear training approach that Global Fund monies are available to implement (further information below).

126. **JICA.** The 2008 announcement at the TICAD IV Conference ‘to train 100,000 people as health workers [in Africa] over the coming five years’<sup>89</sup> is to be factored into the next round of JICA planning in Zambia. This process begins in May 2009 with an initial ‘Demand Survey’ to identify government needs and priorities. Subject to country discussions and the internal JICA processes there is the potential for an additional injection of funding for HRH activities starting from April 2010. Initial estimates indicate a sum of approximately \$4m over three years in either TA, Grant funding or a combination of these approaches.

127. It was noted that an earlier consideration by JICA staff to support the ZHWRS was not subsequently adopted in current JICA activities. Given Japan’s leadership in the G8 Hokkaido Toyako Summit, the G8 Communiqué<sup>90</sup> and the Follow-up International Conference on Global Action for Health System Strengthening<sup>91</sup> it would appear that new coordinated proposals on HRH planning, management and development are more likely to be supported. A recent article in *The Lancet* identified the main conclusions from the Follow-up Conference as follows:

*The G8 should ....Strengthen the capacity of countries to plan, implement, and assess health workforce programmes, so that they can more effectively use the existing health workforce and G8 commitments.* Reich, MR and Takemi, K (2009)<sup>92</sup>

128. **Global Fund.** The recently approved Round 8 proposal (April 2009 – March 2014) has specific components in support of HRH. This includes the HIV programme (\$253m) and the budget for HSS cross-cutting interventions (\$54m). The proposal identifies salaries for provincial, ministerial and district coordinators, as well as staff in non-government institutions totalling some \$20 m (\$13m – HIV; \$7m - HSS). \$15m is identified for nurse training in ART (task-shifting), CHWs, CSO capacity and data collection/M&E. Funding to expand the retention scheme and increase the production of health workers is also included (\$27m approx)<sup>93</sup>.

129. The process of application to Round 9 is ongoing. We were informed that the application will have particular emphasis on securing funding for the continued roll-out and scale-up of ART: approximately 80% of the projected budget request of circa \$200m will be to procure ARVs.

130. **GAVI.** 12 districts are benefitting from a \$6.6m package of HRH interventions funded by the GAVI Health Systems Strengthening mechanism<sup>94</sup>. This includes the refurbishment of staff facilities, water and electricity supplies, communications (radio and telephone) and transport (including 4x4 vehicles, motorcycles, bicycles). The initiative seeks to improve the living conditions for health workers in rural districts and health centres and incentivise CHWs and

<sup>89</sup> TICAD (2008) Fourth Tokyo International Conference on African Development (TICAD IV) sets framework for a “century of African growth”. Press Release. 30 May, 2008. <http://www.ticad.net/iv/documents/TICADIV-Final-Press-Release-ENGLISH30May08.pdf>

<sup>90</sup> Available at: [http://www.mofa.go.jp/policy/economy/summit/2008/doc/doc080714\\_en.html](http://www.mofa.go.jp/policy/economy/summit/2008/doc/doc080714_en.html)

<sup>91</sup> Information available at: [http://www.mofa.go.jp/announce/announce/2008/11/1184556\\_1070.html](http://www.mofa.go.jp/announce/announce/2008/11/1184556_1070.html)

<sup>92</sup> Reich, MR and Takemi, K (2009) G8 and strengthening of health systems: follow-up to the Toyako summit . The Lancet, Vol.373, Issue 9662. Pages 508 - 515, 7 February 2009. <http://www.thelancet.com/>

<sup>93</sup> CCM Zambia (2008) Proposal Form to Round 8.

[http://www.theglobalfund.org/grantdocuments/8ZAMH\\_1781\\_0\\_full.pdf](http://www.theglobalfund.org/grantdocuments/8ZAMH_1781_0_full.pdf)

<sup>94</sup> MoH (2007) GAVI Alliance Health System Strengthening (HSS) Applications. May 2007.

[http://www.gavialliance.org/performance/country\\_results/index.php?contID=1&countID=71](http://www.gavialliance.org/performance/country_results/index.php?contID=1&countID=71)

Neighbourhood Health Committees (NHC). A ‘Tracking Study’ of GAVI HSS interventions was recently conducted; however, the findings for Zambia’s programme were not available at the time of writing.

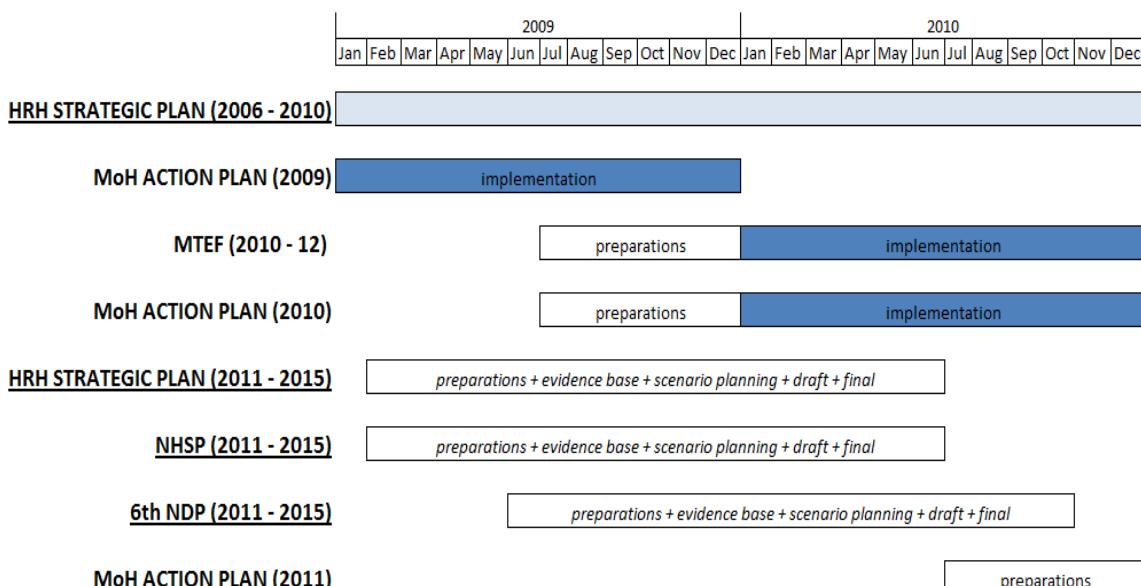
131. **European Commission.** The EC has provided considerable support to HRH in the period 2006-8: with €8.75m allocated against agreed performance indicators. Future funding, some of which is available for HRH, is indicated at €35m in the period 2009-11. In addition to the ongoing work at country level, the ‘European Programme for Action to tackle the critical shortage of health workers in developing countries (2007–2013)’ is preparing a Call for Proposals which Zambian CSOs/NGOs will be able to respond to. The CFP will seek to engage CSOs to support national health workforce policies, strategies, capacity building and skills transfer. Subject to internal processes and the success of Zambian CSOs in applying for an award this offers an opportunity for additional funding for HRH interventions.
132. **Clinton Foundation HIV/AIDS Initiative.** CHAI is an active participant in HRH and is supporting the MoH to implement priority areas in their annual plan, including earlier work on the National Training Plan and individual Operational Plans for Training Institutions. 2008/9 activities are supporting an analysis of health worker distribution for the public sector and to consider scenarios regarding the optimal number, type and distribution of future staff. This “Workforce Optimization Project” is conducted through two streams of work:
- ❖ Site visits to validate the PMEC payroll data (number, function and location of HCWs that are presently employed by MoH)
  - ❖ Development of an analytical model that approximates healthcare demand in the public sector. This reviews facility-level health indicators (including disease incidences and case volume) from the national Health Management Information Systems (HMIS) database, and estimates time-based inputs to provide adequate healthcare services.
133. The aim of the two components is to assist the MoH to identify inaccuracies and HCW surplus / vacancies by cadre and by facility. Subsequently, it is anticipated that the analysis will enable MoH to: prioritise Establishment positions to be filled by graduates over the near-term; support rational resource allocation; ensure that graduate targets of Training Institutions align with HCW needs by cadre, and; identify opportunities to enhance workforce productivity, including task-shifting and improved utilization of CHWs.
134. The analytical model within the CHAI programming appears an ambitious undertaking, which at the time of the country visit and in follow-up has been unable to secure MoH guidance on the approved list and titles of health workers and their equivalent WHO and ILO categories and classifications. The absence of this baseline will inevitably hinder standardised assessment and analysis across all existing sources of health workforce information.

#### 4 Discussion and recommendations

135. An initial presentation of findings and recommendations was held on 22<sup>nd</sup> January with staff from DFID and USG agencies prior to a presentation at an afternoon meeting of the HRH Technical Working Group. The presentation is available as Annex 6.

136. The following section outlines in greater detail the discussion points, risks and challenges going forward and the recommendations resulting. It is for further consideration by the MoH and partners. Two broad areas need also be considered: a) the ongoing actions to deliver against the current HRHSP (2006-10) and; b) the planning, preparation and execution of the next HRHSP (2011-15). The latter will require close alignment with the development of the new NHSP (2011-2015) which has to be finalised by June 2010<sup>95</sup> and the 6<sup>th</sup> NDP (2011-2015) and suggests a period of considerable planning intensity alongside the delivery of the Annual Operational Plans for 2009 and 2010.

**Figure 7: HRH – Implementation & Planning in 2009 and 2010.**



Source: Campbell & Caffrey. 2009.

##### 4.1 National plans and policies

137. HRH interventions and activities are guided by the HRH Strategic Plan. The key HR planning, management and development activities currently undertaken by the MoH and supported by CPs include the following: improving HR information systems through the expansion and decentralisation of the PMEC; recruitment of staff to fill vacancies and new posts in order to increase overall numbers and improve skills mix; implementation and expansion of the Retention Scheme to improve distribution and retention of essential staff in remote and hard to reach areas; and support to Health Training Institutions to increase student enrolment and the quality of pre-service training programmes. The focus is to ensure the right number of

<sup>95</sup> Interview with Nicholas Chikwenya.

professionals, with the right skills in the right places. These activities will continue to be key focus areas and will require CP support throughout the remaining life of the HRHSP 2006-2010.

138. Activities and developments within the MoH and HRH should be aligned with the public service reform programme and the work on pay reform. A well designed and implemented job evaluation could contribute to improving the competitiveness of civil service remuneration. Health professionals and technical personnel could benefit from having their jobs upgraded and their salaries enhanced relative to other salary groups. However this evaluation could also lead to another reassessment and/or revision of MoH structures and staffing. Similarly, the development of a comprehensive pay policy and the consolidation of remunerative allowances into basic salaries could have implications for the future sustainability of the retention scheme; the consolidation of the allowances and benefits offered under the scheme could over inflate the wage bill. The participation of the MoH HR Director on the pay reform TWG should ensure that HRH plans and strategies take cognisance of such developments in public service and pay reform.
139. The findings of the comparative remuneration survey highlight the need to improve public service pay and benefits in order to attract and retain skilled and competent public service workers.<sup>96</sup> These findings along with better intelligence on the labour market could be utilised to inform HRH attraction and retention strategies and to advocate for improved wage ceilings for health sector workers.
140. One of the key challenges will be the ongoing coordination of policy design and implementation in public service management in parallel to the priority actions in the current NHSP and HRHSP. This will require high level oversight and leadership across the MoH, integrating the recommendations from the MTR, promoting enhanced CP harmonisation and alignment and agreeing clear actions to implement the partners' MoU and new 'IHP Addendum'.
141. At the same time the MoH will be undertaking major planning exercises to develop their 2011-15 strategies and plans. These need to build on the positive experiences in Zambia to date and demonstrate a new level of evidence-based policy and comprehensive costing analysis that integrate national, regional and global commitments. The results will enable the MoH to respond articulately to the opportunities for longer-term sustainable financing for HRH and HSS. The *Troika* will play a key role in supporting the MoH in these processes and the interaction with wider government initiatives.
142. Given the above, the collective capacity of the MoH and CPs and the coordination mechanisms to plan, finance and implement HRH activities will need to be fit-for-purpose. Knowledge and communication management will be essential elements. 'Health as a Tracer Sector' is recognised by the OECD DAC, WHO, the World Bank and other CPs as a means to test, review and implement the necessary changes in the behaviour of government and development partners – to harness and strengthen capacity. The IHP+ builds on this work. Its application in Zambia offers scope for the GRZ and MoH to promote greater harmonisation and alignment.

**Recommendation HRH1:** MoH and the *Troika* to review the coordination modalities for the public sector, health sector and HRH and, if needed, to develop revised mechanisms, Terms

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<sup>96</sup> Zambia Public Service Diagnostic Studies: Synthesis Report. Draft report December 2008. Prepared by Theodore R. Valentine, Dale S. Mudenda, with assistance from Joseph Rudumyamheto

of Reference and priority actions for the next two year period of implementation and planning.

**Recommendation HRH2:** MoH and the *Troika* to initiate discussions on the roll-out of public sector pay reform for health workers, with due consideration of whether the MoH is positioned to take a leading role as a 'tracer' sector.

143. The pending finalisation of the Addendum to the MoU and subsequent signatures from many CPs (including civil society) presents an opportunity to reflect on the cooperation arrangements going forward. The MTR identified that 'only 20% of all financial resources to the health sector were 'on-budget' [in 2007], representing US\$ 48.6 million out of a total of US\$ 246.5 million'. Adherence to the IHP principles within the Addendum therefore implies a significant behavioural change on the part of many CPs: change that will be supportive of the HRH agenda.
144. HR planning requires knowledge of the numbers of health workers who are active in the health sector, their distribution and characteristics, as well as the numbers and characteristics of those being trained who will join the health workforce and of those leaving the workforce and the reasons for leaving<sup>97</sup> This information should be gathered and available through a reliable Human Resource information System (HRIS). At the same time policy makers and HR decision makers need to have the capacity to understand and utilise this knowledge and information to make informed decisions. In the absence of accurate data on staffing levels, patterns, attrition and supply from training, the MoH may find it difficult to present a convincing case for increased staffing and PE budgets; with better information the MoH might be able to leverage increased financing to fill existing and new posts.
145. The current MoH exercise to validate payroll data offers new opportunities to confirm the actual number of health workers in health facilities: by title, function and professional classification. The HR Director expanded on some of the many issues that were being identified during the initial visits in December 2008, suggesting that there are numerous data corrections resulting and a high number of workers who are being remunerated though grant funding and therefore not captured on the PMEC<sup>98</sup>. The ongoing decentralisation and planned expansion of the PMEC should lead to better intelligence and information on HRH However the time and investment to update and improve HRH information and to have it available for planning and decision making should not be underestimated..
146. The restructuring of the MoH is impacting on the ability of the HR department to maintain strategic oversight and coordination of HRH in the health sector. Many of the available HR officers at HQ, including staff in the newly established HR Planning Unit, are fully occupied with the operational and administrative tasks related to the process. The process of appointing and placing staff on to the new structure is progressing very slowly. There is little communication on the HRH processes and restructuring and recruitment process particularly are not well understood outside of the HR Department. The MTR also noted that the transition of CBOH staff to MOH has created stress between the technical and policy units and lines of communication, relationships and areas of responsibility are not clearly defined which constrains departmental and horizontal collaboration

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<sup>97</sup> WHO (2008) Toolkit on monitoring health systems strengthening. Human Resources for Health

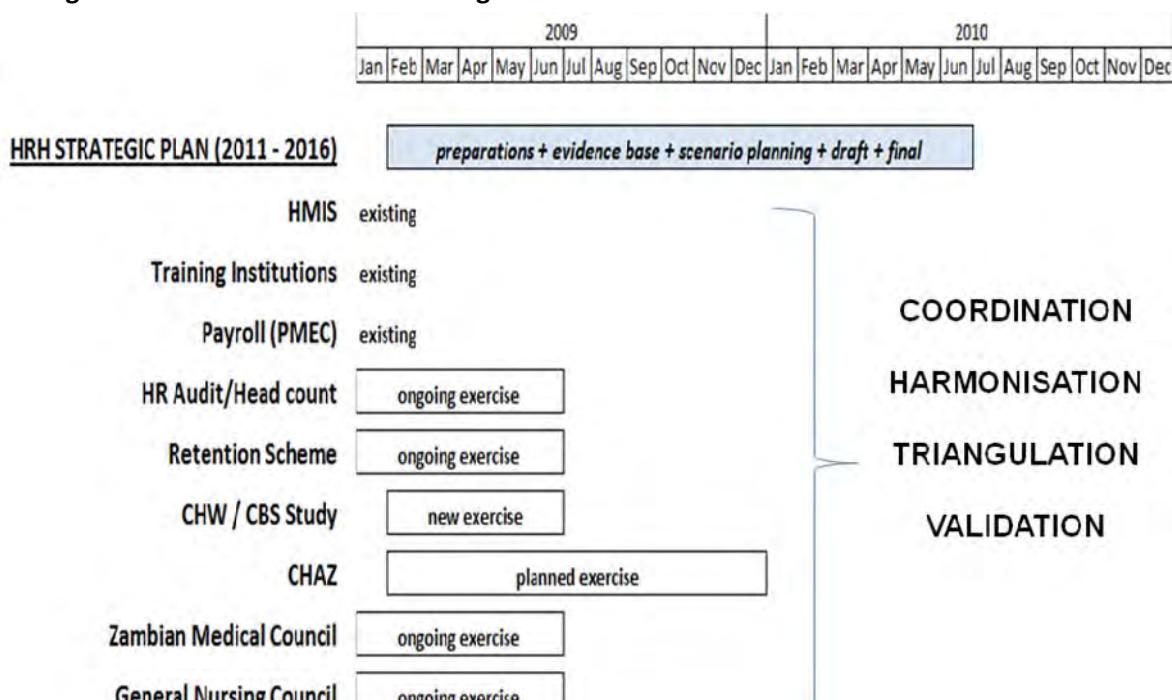
<sup>98</sup> Meeting – 12 Jan, 2009.

147. The reported absence of a MoH baseline on the complete list and titles of health workers and their equivalent WHO<sup>99</sup> and ILO categories and classifications prohibits standardised assessment and analysis across all existing sources of health workforce information. Completing this exercise and agreeing standardised coding, which includes the latest ILO classifications released in 2008, would facilitate enhanced planning and workforce surveillance and respond to the MTR recommendation to create a 2008 baseline of workforce characteristics<sup>100</sup>.

148. The same exercise could then be expanded to standardise all current sources of health workforce information (see Figure 8 below). The use of information from a variety of sources should in principle increase the options for measuring and validating core health workforce statistics. Both the ZMC and the GNC are updating their electronic databases and would benefit from support to harmonise data fields. The same applies to CHAZ and other agencies managing information systems. The coordination, harmonisation, triangulation and validation of all respective systems and data would thus enable major improvements in the evidence-base in Zambia.

149. This would also link to current activities by WHO Geneva to update their guidance on 'Counting Health Workers' and support standardised reporting against agreed HRH indicators for the health workforce. This then raises the opportunity for the MoH and WHO to re-assess the current situation in Zambia and calculate progress since the data in 2004 as to whether it is 'emerging' or even 'emerged' from the category of one of the 57 'crisis' countries. Feedback from the former PS and the HR Director would suggest there have been net gains in the public sector workforce since 2004 that are greater than the estimated shortfall of 1,686 Physicians, Nurses and Midwives: this needs updated data to confirm.

**Figure 8: HRH Information – Building Blocks.**



Source: Campbell & Caffrey. 2009.

<sup>99</sup> Classifications of health workers used for the WHO Global Atlas of the Health Workforce available from:  
[http://www.who.int/globalatlas/autologin/hrh\\_login.asp](http://www.who.int/globalatlas/autologin/hrh_login.asp)

<sup>100</sup> MTR (2008) p.79.

150. The monitoring and evaluation of HRH interventions is critical. A timely and reliable HRIS will support the monitoring and evaluation of the HRH Strategic Plan at the sub-national and national level. A core set of strategic and operational level indicators ad means of measuring them are required. Strategic level indicators are required for strategic oversight and informing policy decisions. More detailed indicators are needed for monitoring the Annual Implementation Plans and for special initiatives (e.g. surveys, research studies, etc.) to establish their effectiveness, efficiency and potential for scale up. Monitoring and evaluation systems should provide information on staffing levels and patterns but should also examine how HR decisions and the implementation of particular interventions (e.g. delays in recruitment, sale up of the retention scheme) affect service delivery and health outcomes, the cost effectiveness of the interventions and the potential and fiscal space for scale up. The Framework should be developed in collaboration with the Planning and M&E Departments and linked to the HMIS and the Performance Assessment Framework

**Recommendation HRH3:** Ensure the current ‘payroll audit’ is capturing and reporting all corrections to PMEC on an ongoing basis and is linked into and supports the ongoing expansion and decentralisation of the PMEC.

**Recommendation HRH4:** Agree all Zambia health worker titles and their respective WHO and ILO (2008) classifications to enable standardised reporting on the health workforce. Work in this area should be aligned with the development of job descriptions and person to post matching processes that are ongoing as part of MoH restructuring

**Recommendation HRH5:** MoH and CPs to develop a 2009 baseline of the health workforce characteristics, support the development, harmonisation and maintenance of an integrated HRIS so that reliable information is available for HRH planning and decision making. They should also explore the option with WHO to review the ‘Counting Health Workers’ exercise and provide an update on Zambia’s progress since 2004. .

**Recommendation HRH6:** MoH and CPs develop one HRH M&E Framework/Plan to monitor the implementation of the HRH Strategic Plan. This will include targets, indicators and means of measuring them for planned strategies and interventions in order to effectively monitor progress and evaluate and review impact.

151. WHO has been leading the initial development of a Zambia Health Workforce Observatory (ZHWO) for some time. Staff from the MoH, including the new PS and the HR Director attended the VIII Regional Meeting of the Observatories of Human Resources in Health for the Americas in 2006<sup>101</sup> so are familiar with the benefits of the proposed ZHWO. Given the volume of HRH research, analysis and assessment that is either recommended (i.e. those identified in the MTR<sup>102</sup>), planned, completed or underway, as well as the recommendations above, there is a clear need for HRH knowledge management within a robust coordination mechanism that can support evidence-based policy and implementation.

152. This mechanism also has the potential to provide evidence for the ongoing discussions on the harmonisation and alignment principles within the current MoU between GRZ and CPs and the pending ‘IHP Addendum’. For instance, evidence on supply-led IST which is not aligned to government priorities, quantitative/qualitative analysis of the effectiveness of the retention scheme, or identified gaps in workforce numbers in rural districts would facilitate some of the

<sup>101</sup> Information available at: <http://www.observatoriorh.org/Lima/eng/participants.html>

<sup>102</sup> The MTR calls for additional research in CHWs, productivity and retention.

necessary (and potentially tough) discussions on priorities, resource allocation and effectiveness. Evidence could further enable the MoH to leverage additional financial resources (domestic and ODA) in support of civil service/pay reform and comprehensive workforce planning.

153. It should be noted that as an IHP signatory, the GRZ and the activities of CPs will be measured within the framework of an annual, independent, evidence-based evaluation of progress against the IHP Results Framework: 'IHP Results'. The North-South Observatory established to perform this evaluation will be focusing on HRH as a 'tracer' for 'IHP Results', reviewing the many commitments in recent years (i.e. the Bush/Brown announcement, UN High Level Summits, G8 etc) to support countries scale-up their health workforce. If there is no documentation or evidence to support an evaluation of progress this will be a reported finding in itself.

154. The ZHWO could act as a gateway for these domestic and global discourses. It can collate and coordinate the many inputs, including the new CHW study supported by WHO/GHWA; new work by the WB; potential research funds from the EC's HRH programme; the current call from The Global Health Research Initiative (GHRI) in Canada<sup>103</sup>, ongoing work by the Global HIV/AIDS Initiatives Network (GHIN)<sup>104</sup>. the participation as a Wave 1 country with the Health Metrics Network (HMN); new research funded by the Alliance for Health Policy and Systems Research (AHPSR) and; the existing knowledge of PEPFAR implementing partners<sup>105</sup> - to name but a few identified in the course of this assignment.

155. WHO is a potential home for the ZHWO, but there are alternative options including the Professional Associations, the Centre for Health Science and Social Research (CHESSORE), the Zambia Forum for Health Research (ZAMFOHR) – organisations which are currently undertaking HRH research and have links with GRZ and CPs<sup>106</sup>. Another option is for an extension of an existing/planned PEPFAR intervention in HRH/HSS (i.e. similar to the global 'Capacity Project'). We would anticipate that both PEPFAR and DFID could make significant contributions in this area.

156. The work will ideally relate to the ongoing development with the National Health Research Advisory Committee (NHRAC). Once options are assessed a CP could be nominated to lead the establishment and management of the preferred option and to liaise with the MoH on the research agenda and the enhanced evidence-base for the development of the HRHSP (2011-2015). ZAMFOHR's existing resource centre and online database offers a possible host to collate all available HRH research and reports in the last 5 years.<sup>107</sup>

**Recommendation HRH7:** The MoH and CPs to agree an HRH Knowledge Management coordination mechanism, revisiting the option of a Zambia Health Workforce Observatory and identifying a host organisation.

157. Effective HRM systems, practices and capacity are required to ensure that staff are recruited in a timely manner and allocated to places they are needed most and where they can effectively utilise their skills. Systems in the public sector and MoH need to be strengthened to improve

<sup>103</sup> Further information is available at: [http://www.idrc.ca/en/ev-114684-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-114684-201-1-DO_TOPIC.html)

<sup>104</sup> Further information is available at: [http://www.ghinet.org/countrystudies\\_africa\\_zambia.asp](http://www.ghinet.org/countrystudies_africa_zambia.asp)

<sup>105</sup> i.e. Abstracts prepared by Prime Partners for the HIV/AIDS Implementers Meeting in June 2009.

<sup>106</sup> Including CIDA, WEMOS, the Canadian Coalition for Global Health Research (CCGHR) and the Alliance for Health Policy and Systems Research.

<sup>107</sup> Available online at: <http://www.zamfohr.org/database.html>

'conventional' recruitment and to improve recruitment from 'non-conventional' areas (e.g. such as contracting retired health workers and expatriates, use of informal and/or non health workers to deliver specific services, outsourcing recruitment, financing fast-track recruitment models using non-governmental mechanisms to rapidly hire, and deploy essential cadres<sup>108</sup>). The MTR Report suggests that the area of HRH urgently requires more flexible financing to ensure that the root causes of the HRH crisis are addressed in a comprehensive, macroeconomic way through a clear, long-term wage and benefits policy.

158. A baseline and M&E indicators should be established for the Retention Scheme in order to effectively track and monitor progress and impact. Quantitative research and operations research could be conducted to build the evidence base and document lessons learned particularly the impact of the scheme on health worker attrition, distribution, redeployment and productivity.
159. Findings from a study of public service employee perceptions of the type of pay and non-pay factors that motivate employees' revealed that while many were dissatisfied with salary and allowance levels, the incentive regime and the work environment, 80% of respondents stated a preference for remaining in the public sector. This would indicate that the public service has more of an attraction problem than a retention problem. This highlights the need to fully understand the HRH problem and develop appropriate strategies to address it. The proposed World Bank study on retention may provide opportunities to further explore issues related to health worker attrition, retention strategies, incentives and motivation.

**Recommendation HRH8:** MoH and CPs to support interventions to improve and streamline recruitment and deployment systems and practices. More flexible and non-conventional employment and financing arrangements should be explored to recruit, deploy and retain essential staff, building on the existing ZHWRS.

## 4.2 *Cooperating Partners – supporting actions*

### 4.2.1 *HRH Planning*

160. Given the discussion and recommendations above there will be increasing demands on both the DFID advisory team (in their coordination role within the *Troika* and their wider PSM activities) and USG agency staff. In parallel, the Addendum to the MoU raises new obligations and accountability frameworks that will require inputs. Capacity to undertake these multiple roles may come under challenge and additional human resources in the immediate 2-year period should not be discounted. Options for consideration include long-term TA in the MoH, additional staff, or contract arrangements (i.e. with an existing CP or PEPFAR partner for a particular component of TA). A jointly-supported DFID/PEPFAR post, in keeping with the spirit of the Bush/Brown cooperation established in 2008, should not be discounted and could be an innovative example of creating synergies at the country level<sup>109</sup>.

161. The future planning requirement presents an opportunity for the MoH and DFID to consider a strategic relationship on the NHSP and HRH planning similar to the development of the 2006-10 NHSP and HRHSP which were supported by technical assistance via SIDA and DFID. The IHP-

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<sup>108</sup>See [http://www.capacityproject.org/images/stories/files/mid-term\\_evaluation\\_ehp.pdf](http://www.capacityproject.org/images/stories/files/mid-term_evaluation_ehp.pdf) for more information on the Kenya Emergency Hiring Plan

<sup>109</sup>If feasible given the internal recruitment and staffing procedures in the respective agencies.

related funding is intended to be catalytic. Supporting the delivery of robust, evidence-based, costed plans that can leverage longer-term sustainable financing would fit in this category. Similarly, the implementation modality can explore the engagement of an existing CP to undertake some of the subsequent activities.

**Recommendation CP1:** MoH and DFID to discuss and review options for technical support to the planning process in 2009 and 2010.

162. Earlier discussions highlighted the contribution from PEPFAR in the scale-up of ART. The year-on-year allocation of \$25-\$27 million on ARVs being a major contribution. However, procurement of medicines may not be maximising the effectiveness and known flexibility of PEPFAR funds. There are clearly wider issues in Zambia with the cost and sustainability of ART but the potential for PEPFAR to reduce its contribution to ARV funding and reallocate resources to HRH and HSS in support of universal access, working to its comparative advantage, should not be excluded. The current Round 9 application (5-year funding) to the Global Fund and could potentially generate new sources of financing for ARVs (the appropriate lobbying/communication to secure funding should be increased irrespectively). We would encourage further discussion between MoH, NAC and USG Agencies to explore the feasibility of additional financing for ARVs from alternative sources thus enabling the reallocation of PEPFAR funds to support enhanced HRH emphasis.

**Recommendation CP2:** MoH, NAC, USG Agencies and other CPs to explore the feasibility of additional financing for ARVs from alternative sources including GFR9.

163. We note that USG agencies are in an intensive period of new PEPFAR procurement. In addition to the criteria that interested parties must demonstrate alignment with Zambia's NHSP we would encourage USG agencies to also stipulate alignment with the HRHSP and a statement on the HRH impact resulting from their proposed activities. This will establish early appreciation in the new projects and their respective management structures that HRH is a key target in the PEPFAR Reauthorisation.

**Recommendation CP3:** New PEPFAR procurement notices to include HRH criteria and a partners' statement on the HRH impact resulting from proposed activities.

164. The current capacity across USG agencies and PEPFAR partners in surveillance would benefit from further development. The CDC Director, Dr. Lawrence Marum, has prior experience of the innovative approach in Kenya to develop 'workforce surveillance' and the potential for similar development in Zambia. Many of the current PEPFAR surveillance activities lend themselves to developing the evidence base in HRH. GIS systems are in place, people trained and activities ongoing. The approach identified earlier to harmonise, triangulate and validate data and information across the many differing sources (Figure 8 above) is a core function in surveillance where CDC may hold technical and comparative advantage. We would encourage this capacity to be harnessed in support of the HRH priorities. It could form part of the coordinated approach (ensuring sustainable solutions with minimal recurrent costs) to building the evidence-base for the 2011-2015 HRHSP, evaluating current interventions, providing needed support to the Professional Associations (ZMC + GNC) and their electronic databases and supporting the potential development of a ZHWO discussed earlier..

**Recommendation CP4:** The technical and comparative advantage of USG agencies and Prime Partners in surveillance and data management to be incorporated in the coordinated activities for 'workforce surveillance', evaluation and support to Professional Associations.

165. The excellent internal reviews on PEPFAR supported Health Workers, CHWs and CBS demonstrate the added value data and information that can be captured. Whilst we appreciate this may place additional reporting and management burdens on partners and USG staff the opportunity to conduct similar analysis and inform ongoing work of the MoH and other CPs could be considered further. We would therefore encourage further internal reviews, removing any confidential or sensitive data and sharing this more widely. WHO/GHWA will support the development of a CHW strategy and this work would benefit greatly from lessons learned from PEPFAR supported CHW programme.

**Recommendation CP5:** USG agencies to review options for internal reviews and share existing data and information for national planning and policy initiatives on CHWs and CBS.

#### 4.2.2 HRH Management

166. PEPFAR's current support to the ZHWRS is a positive example of how PEPFAR funding can be integrated into systems strengthening and HRH Management at the country level and we would encourage similar approaches to be developed across other programming. Moving forward the data collected through this initiative can be linked to the analysis and assessment (efficiency, effectiveness, sustainability, impact) of the ZHWRS which the WB has expressed an interest in supporting and secondly, can be a case-study for the development of additional Strategic Indicators (SIs) for HRH that an OGAC TWG is considering<sup>110</sup>. Subject to the deliberations of the OGAC TWG there may be new SIs issued as guidance in June 2009. The impact of retention initiatives in the public sector, monitoring the continued engagement of staff and the reduction in attrition, provides a net gain to the health workforce. PEPFAR could consider a major role in this work. Supporting an enhanced package of support, including infrastructure needs, could enable the needed scale-up.

**Recommendation CP6:** PEPFAR support to the ZHWRS to be documented as a positive case-study in systems strengthening and HRH Management and the data and information utilised in national and USG planning discussions.

#### 4.2.3 HRH Development

167. The PEPFAR Reauthorisation and the introduction of the new target of 140,000 health care workers may offer an opportunity for further review of the Emergency Plan Program-Level Reporting Framework and the Program-Level Indicators. As discussed earlier there is an imbalance in the emphasis of training individuals as against building organisational capacity. New discussions on the SIs and sub-indicators for HRH are anticipated across the focus countries. USG agencies in Zambia will ideally participate in these and explore the opportunities for revised categories and indicators that will encourage Prime Partners to measure impact on HSS.

168. Linked to the earlier discussions on Program-Level Indicators, internal data on CHWs and CBS, workforce surveillance and new procurement there is scope to review approaches to In-Service Training (IST) initiatives and address some of the partners' concerns expressed earlier. IST is a core element of PEPFAR programming with noted impact in scaling-up services in Zambia. Mapping training needs and priorities in collaboration with MoH, coordinating planning

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<sup>110</sup> Personal communication from Joan Holloway (OGAC). 12<sup>th</sup> February, 2009.

and delivery, assessing cost-effectiveness and impact and reducing associated costs could offer scope for greater allocative efficiency of PEPFAR resources. Savings could subsequently be reallocated to additional HRH activities. We do not underestimate the time to complete such an exercise but a 10-20% improvement in the marginal costs of IST per health worker would yield considerable savings for re-distribution.

**Recommendation CP7:** USG agencies to consider a review of existing approaches to IST against needs, mapping and delivery costs with the objective to yield resources for re-distribution to other HRH activities and through the lessons learned to inform planning of national IST strategies and approaches.

169. The information above will lend itself to the ongoing study on CHWs and CBS, and more importantly the follow-on once MOH policy on the roles and responsibilities of CHWs, their training, remuneration and impact on the structure of Community Based Services is agreed. The potential impact on service delivery (for disease-focused activities and maternal health) and the subsequent HRH development is considerable and may require extensive planning and financing to roll-out across all Provinces. As per the earlier references to policy coordination between the MoH and the *Troika*, early review of the options and scenarios for CHWs and CBS, with CPs agreeing their capacity to support implementation would be a valuable discussion. Given the potential policy changes that may emerge, PEPFAR programming for the next 5 years may need to factor in the capacity to respond. One of the considered strengths of PEPFAR's annual planning and programming cycle is its ability to respond to government priorities as they arise. A coordinated approach to CBS, supporting broad-based primary care and prevention services, will enable PEPFAR to extend its impact on HSS in addition to the legislated TPC targets.

**Recommendation CP8:** CPs to consider the HR Development necessary to implement future policy and guidelines on CHWs and CBS and identify potential resources for pilots and full-scale implementation.

170. We noted that PEPFAR investment in the training of new graduates and hires in Zambia was considerably lower than IST (and in comparison to initiatives in Mozambique and Kenya) but recognise that projected flat-funding for 2009 leaves little scope to introduce new initiatives without cutting existing programming and priorities. Nonetheless the flexibility of PEPFAR funding in PST, including health infrastructure, and contracting of health workers that is evident in other focus countries does encourage the consideration of similar initiatives in Zambia. If the earlier suggestions to secure additional ARV funding or reduce programming costs of IST can be realised there will be new funding options available. Linking these options to the comparative advantage of PEPFAR in addressing emergent needs in PST and short-term interventions that can later be included in recurrent expenditures through the Ministry or basket-funding will ideally be explored.

#### 4.3 Matrix of recommendations resulting.

171. The following table presents the above recommendations, by lead, target date and means of verification.

**Table 14: Matrix of recommendations**

<b>Recommendation</b>	<b>Lead</b>	<b>Target date</b>
<b>HRH1:</b> MoH and the Troika to review the coordination modalities for the public sector, health sector and HRH and, if needed, to develop revised mechanisms, Terms of Reference and priority actions for the next two year period of implementation and planning	MoH / Troika	to be discussed
<b>HRH2:</b> MoH and the Troika to initiate discussions on the roll-out of public sector pay reform for health workers, with due consideration of whether the MoH is positioned to take a leading role as a 'tracer' sector	MoH / Troika	to be discussed
<b>HRH3:</b> Ensure the current 'payroll audit' is capturing and reporting all corrections to PMEC on an ongoing basis and is linked into and supports the ongoing expansion and decentralisation of the PMEC	MoH	to be discussed
<b>HRH4:</b> Agree all Zambia health worker titles and their respective WHO and ILO (2008) classifications to enable standardised reporting on the health workforce. Work in this area should be aligned with the development of job descriptions and person to post matching processes that are ongoing as part of MoH restructuring	MoH	to be discussed
<b>HRH5:</b> MoH and CPs to develop a 2009 baseline of the health workforce characteristics, support the development, harmonisation and maintenance of an integrated HRIS so that reliable information is available for HRH planning and decision making. They should also explore the option with WHO to review the 'Counting Health Workers' exercise and provide an update on Zambia's progress since 2004.	MoH / Troika	to be discussed
<b>HRH6:</b> MoH and CPs develop one HRH M&E Framework/Plan to monitor the implementation of the HRH Strategic Plan. This will include targets, indicators and means of measuring them for the planned strategies and interventions in the Plan in order to effectively monitor progress and evaluate and review impact.	MoH / Troika	to be discussed
<b>HRH7:</b> The MoH and CPs to agree an HRH Knowledge Management coordination mechanism, revisiting the option of a Zambia Health Workforce Observatory and identifying a host organisation	MoH / Troika	to be discussed
<b>HRH8:</b> MoH and CPs to support interventions to improve and streamline recruitment and deployment systems and practices. More flexible and non-conventional employment and financing arrangements should be explored to recruit, deploy and retain essential staff, building on the existing ZHWRS.	MoH / Troika	to be discussed
<b>CP1:</b> MoH and DFID to discuss and review options for technical support to the planning process in 2009 and 2010.	MoH / Troika	to be discussed

Recommendation	Lead	Target date
<b>CP2:</b> MoH, NAC, USG Agencies and other CPs to explore the feasibility of additional financing for ARVs from alternative sources including GFR9.	MoH / Troika	to be discussed
<b>CP3:</b> New PEPFAR procurement notices to include HRH criteria and a partners' statement on the HRH impact resulting from proposed activities..	USG	to be discussed
<b>CP4:</b> The technical and comparative advantage of USG agencies and Prime Partners in surveillance and data management to be incorporated in the coordinated activities for 'workforce surveillance', evaluation and support to Professional Associations	USG	to be discussed
<b>CP5:</b> USG agencies to review options for internal reviews and share existing data and information for national planning and policy initiatives on CHWs and CBS.	USG	to be discussed
<b>CP6:</b> PEPFAR support to the ZHWRS to be documented as a positive case-study in systems strengthening and HRH Management and the data and information utilised in national and USG planning discussions	USG	to be discussed
<b>CP7:</b> USG agencies to consider a review of existing approaches to IST against needs, mapping and delivery costs with the objective to yield resources for re-distribution to other HRH activities and through the lessons learned to inform planning of national IST strategies and approaches	USG	to be discussed
<b>CP8:</b> CPs to consider the HR Development necessary to implement future policy and guidelines on CHWs and CBS and identify potential resources for pilots and full-scale implementation.	DFID	to be discussed

172. These recommendations are for ongoing dialogue and discussion between partners. Many are complementary to each other and require continuing commitment to working in partnership, applying complementary strengths to take these forward. Target dates require local discussion and agreement: representatives from the MoH and CPs should consider and review these further.

**Annexes****Annex 1: Terms of Reference****Taking forward Action on Human Resources for Health (HRH) in selected African Countries with DFID/OGAC and other partners: ZAMBIA CASE STUDY****Background:**

1. In response to the critical HRH shortages in Africa, DFID and Office of the US Global Aids Coordinator (OGAC) responsible for PEPFAR have been in discussion with a number of African countries to develop strategies and country level actions. The aim is to demonstrate the maximum flexibility of disease specific programmes to support broad based primary care in line with countries' health plans.
2. An initial operational meeting was held in Ethiopia in January 2008 with US, UK and country representatives from Ethiopia, Zambia, Mozambique and Kenya (PEPFAR, DFID overlap countries). Some initial progress was made and a matrix was produced for each country highlighting key short to mid term priorities that could be potentially funded. However, these required further work and details on priority areas for each country.
3. There is high level political support for this process in the UK and US, provided that the efforts result in specific actions and commitments in each country. However, there is a short political window to demonstrate success. Support is therefore required to work up costed options of priority short to mid-term actions for these countries. DFID Zambia has specific resources available to potentially support a future programme.
4. There are risks that this activity runs counter to existing country processes and every effort should be made to ensure that this work does not bypass country systems and HRH working groups. This should be undertaken with support from the Ministry of Health, and DFID and US country teams, and focus on operational level activities. Discussions should include appropriate Government of Zambia staff, USG, DFID, WHO and other cooperating partners (CPs) with significant involvement in HR support.

**Purpose:**

5. To document current flexibilities of funding streams for HRH, and recommend specific priority actions on HRH in Zambia, building on existing work and within national frameworks for HR, health and public sector reform. This will also inform design of the future DFID Zambia Health programme.

**Scope of Work for Zambia consultancy**

6. The consultant (s) will:
  - ❖ Review public sector strengthening/reform and other HR related initiatives and their implications for HRH
  - ❖ Review the Zambian government HRH plan and priorities. An HRH strategic plan and the training operational plan have been developed and a set of priority HRH issues and actions is emerging from the mid-term review of the NHSP. The consultants need to review MTR

recommendations for HRH plan, including priority interventions, blocks to implementation and identify funding gaps.

- ❖ Review current support for HRH by PEPFAR and DFID and make specific recommendations on how both organisations might increase the impact of their support on HR capacity building.
- ❖ Review DFID and PEPFAR country assistance plans & identify future opportunities for HRH support, both direct and indirect,
  - DFID Zambia was recently successful in mobilising additional funding for IHP-related activities (£1m 2009/10; £3m year 2; £3m year 3: Figures to be finalised). The consultants should describe in detail the recommended future areas of DFID HR support, expected outputs, budget estimates and recommended funding arrangements.
  - PEPFAR Zambia has supported HRH strengthening through a number of mechanisms and activities. These include program-specific training conducted by various PEPFAR-supported projects.
- a. Highlight the risks and challenges to implementing HR going forward and recommend how best this is done in terms of decision-making, consultation, and coordination.
- ❖ Review results of the initial PEPFAR-DFID HRH meeting in Addis Ababa and consider progress made, documenting the extent of current PEPFAR support to health system strengthening. This will require use of information extracted from the PEPFAR Country Operation Plan (COP) and should cover the following areas:
  - Identify programme elements which are directly contributing to government directed or managed programmes, such as financing of pre-service training and scholarships, and investments in curriculum development, identifying the level of investment where possible - the purpose is to quantify to extent to which PEPFAR funds are already being used for health system strengthening;
  - Develop an overview of PEPFAR funding through Partner agencies (INGOs), identifying any existing policy guidelines from PEPFAR which are shaping NGO interaction with government services, but also highlighting any variations in the interpretation of these guidelines. The consultants should meet with key partners, and consider whether there are any key differences in the way these agencies work with and respond to government, identifying where possible best practice for joint working according to Paris Declaration and SWAp Code of Conduct principles and commitments. Also identify unrealised potential within existing PEPFAR guidelines for the same.
  - Identify challenges to the predictability of PEPFAR financing – documenting the timeframe between budget submission, budget approval and financial disbursement, and assessing the implications of any delays for joint planning with government. Identify whether clearer specifications of dates and milestones for this process could be used to give a more reliable indication of when funds will arrive, in order to facilitate planning on the basis of a realistic and predictable indication of key dates. This information should be provided within the context of National AIDS Control Council's initial efforts to

coordinate and harmonise support to the national AIDS response and the health sector planning cycle milestones. Make recommendations for increasing the predictability through all funding channels.

- b. Consult with and present outputs to stakeholders, including MoH HRH working group, US, UK and other key cooperating partners and CSOs. The consultants should also liaise with other processes such as the MTEF, broader civil service reforms and recent mid term review of the Health Sector plan and identify how better DFID and PEPFAR funds can better align.

**Timeline:**

7. The consultancy is expected to start in early December 2008, through to 25 February 2009.

**Output:**

8. A draft report that responds to the above SoW, highlighting current investments, flexibilities and opportunities for supporting HRH and key options for action and funding in Zambia, including agreed country matrix outlining costed priorities. The report will be submitted within 10 days of departing from Zambia. The draft will then be amended within 10 days of receiving comments.

**Inputs:**

9. Up to 22 days for 1 consultant with a background in health systems, targeted disease programming, and human resources for health, with strong facilitation skills and experience of working in Africa. OGAC HQ will supply and additional team member.

**Annex 2A: Itinerary and persons met**

Date	Time	Margaret Caffrey	Jim Campbell
Tues 13 <sup>th</sup>	pm	Melissa Williams, Mission Director, USAID/Zambia Dyness Kasungami, DFID + Randy Kolstad, USAID Joy Hutcheon, DFID/Z Head of Office Margaret Kapihya, Director, HR, MOH + staff	
Weds 14 <sup>th</sup>	am	USG staff: Randy Kolstad; Lawrence Marum; Isaac Zulu, Jennifer Nield; Chibwe Lwamba, Eric Tremont.	
	am	G.L. Safilwa, Commission Secretary, Public Service Commission.	
	pm	Karen Sichinga, Churches Health Association of Zambia (CHAZ).	
	pm	Laurie Rogers, CIDA.	
Thurs 15 <sup>th</sup>	am	Angela Spilsbury + Dyness Kasungami (DFID) Ippei Matsuhsia + Priscilla Likwasi, JICA.	
	pm	Elizabeth Mataka, Zambia National AIDS Network (ZNAN).	
	pm	Simon Miti, Permanent Secretary, MOH + Davies Chimfwembe, Director Policy, Planning and Development. Rosemary Sunkutu + Monique Vledder, World Bank. Oswald Mulenga, Acting Director General, National AIDS Council (NAC).	
Fri 16 <sup>th</sup>	am	USG implementing partners: HSSP, ZPCT, RAPIDS, SHARE, CHAMP, AIDS RELIEF, CIDRZ and PEPFAR team	
	pm	Florence xxxx, HRH Department	
Sun 18 <sup>th</sup>	am/pm	Susan Edjang, Liz Ollier and David Percy	
Mon 19 <sup>th</sup>	am	Prof. Mulla, School of Medicine, University of Zambia.	Mary Zulu + Bwembya Bwalya. Medical Council of Zambia.
	pm	Kate Schroder + Charmaine Pattinson, Clinton Foundation. Eleanor Msidi, General Nursing Council of Zambia (GNC). Paul Kalinda, EU.	
Tues 20 <sup>th</sup>	am	Wilfred Mwamba, DFID Elspeth Erickson + Rodgers Mwale, UNICEF. Audrey Mwendapole, SIDA.	
	pm	Kafue District Health Management Team	
Weds 21 <sup>st</sup>	am	Karen Campbell, HRH Advisor, MoH + Leo Deville Olusegun Babaniyi, Cheswa Vwalika, Solomon Kagulula, Patricia Kamanga, WHO.	
	pm		Jennifer Nield, USAID Margaret Kapihya, Director, HR, MOH
Thurs 22 <sup>nd</sup>	am	Dyness Kasungami, Angela Spilsbury (DFID), Rene Berger (USAID). Nicholas Chikwenya, Donor Coordinator, MOH.	
	pm	HRH Technical Working Group	
Fri 23 <sup>rd</sup>	am/pm		Troika + HS Committee Dyness Kasungami, Angela Spilsbury (DFID) Charmaine Pattinson, Judy Chang, Joanne Lee (Clinton F) Randy Kolstad, USAID.

**Annex 2B: Participants at the USG Agencies meeting**

Name	Position/Organisation	Contact
Joy Masheke	PMTCT Program Specialist, CDC	<a href="mailto:mashekej@zm.cdc.gov">mashekej@zm.cdc.gov</a>
Ali Taylor	Lab QA Manager CDC	<a href="mailto:taylor@zm.cdc.gov">taylor@zm.cdc.gov</a>
Sylvester Chilaika	Deputy Chief of Party, AIDSRELIEF, Futures	<a href="mailto:schilaika@zm.saro.crs.org">schilaika@zm.saro.crs.org</a>
Lawrence Michelo	SI Advisor , AIDSRELIEF,Futures	<a href="mailto:lmichelo@futuresgroup.com">lmichelo@futuresgroup.com</a>
Andrew Kumwenda	Senior Advisor PMTCT/CT,FHI/ZPCT	<a href="mailto:akumwenda@zpct.org">akumwenda@zpct.org</a>
Ian S. Membe	M&E Advisor, CDC	<a href="mailto:membei@zm.cdc.gov">membei@zm.cdc.gov</a>
Ian Milimo	PEPFAR Project Manager	<a href="mailto:milimol@state.gov">milimol@state.gov</a>
Randy Kolstad	PHN Director	<a href="mailto:rkolstad@usaid.gov">rkolstad@usaid.gov</a>
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**Annex 2C: Participants at Kafue District Health Management Team meeting**

Name	Position
H. Mwango	Pharmacy in Charge, Kafue DHMT
Mwango Kandeta	Health Information Officer, Kafue DHMT
Orlean Mwanaliba	Assistant Accounting Officer, Kafue DHMT
P. Zimba	Clinical Care Expert, Kafue DHMT
A.Chabala	TB/Leprosy Focal Person, Kafue DHMT
J. Chande	Human Resources Officer, Kafue DHMT

**Annex 3: PEPFAR: Program-Level Indicators for Training activities**

<b>Individual level</b>
1.4 Number of health workers trained in the provision of PMTCT services according to national and international standards
2.2 Number of individuals trained to promote HIV/AIDS prevention programs through abstinence and/or being faithful
3.2 Number of individuals trained in blood safety
4.1 Number of individuals trained in medical injection safety
5.3 Number of individuals trained to promote HIV/AIDS prevention through other behavior change beyond abstinence and/or being faithful
6.3 Total number of individuals trained to provide HIV palliative care (including TB/HIV)
6.6 Total number of individuals trained to provide HIV palliative care (excluding TB/HIV) [for COP Table 3 only]
7.3. Number of individuals trained to provide treatment for TB to HIV-infected individuals (diagnosed or presumed). (a subset of indicator number 6.3)
8.2 Number of providers/caregivers trained in caring for OVC
9.3 Number of individuals trained in counseling and testing according to national and international standards
11.5 Number of health workers trained to deliver ART services, according to national and/or international standards
12.2 Number of individuals trained in the provision of laboratory-related activities
13.2 Number of individuals trained in strategic information (includes M&E, surveillance, and/or HMIS)
14.3 Number of individuals trained in HIV-related policy development
14.4 Number of individuals trained in HIV-related institutional capacity building
14.5 Number of individuals trained in HIV-related stigma and discrimination reduction
14.6 Number of individuals trained in HIV-related community mobilization for prevention care and/or treatment
<b>Organisational level</b>
12.1 Number of laboratories with capacity to perform 1) HIV tests and 2) CD4 tests and/or lymphocyte tests
13.1 Number of local organizations provided with technical assistance for strategic information activities
14.1 Number of local organizations provided with technical assistance for HIV-related policy development
14.2 Number of local organizations provided with technical assistance for HIV-related institutional capacity building

Source: PEPFAR (2007) Indicators Reference Guide. FY07 Reporting, FY08 Planning

<http://www.pepfar.gov/documents/organization/81097.pdf>

#### **Annex 4: Zambia – discussion and presentation from Addis Ababa (Jan 2008)**

##### **The HRH plan**

- HRH plan has been developed. The main issue is taking forward implementation, financing and demonstrating effective results to parliament, MoF and donors.

##### **Donor funding behaviour (*i.e. specific changes required on specific issues*)**

- Increase in flexible financing from donors

##### **Priorities for financing (e.g. over next 12-36 months)**

- Production of health workers?? i.e. overall shortage of skilled staff
  - Better coordination between line ministries responsible for training
- Performance management and improve capacity (quality and numbers) of health managers
- Design and implementation of HRH IS
- Implementation of Retention and redistribution policies
- Financing and implementation of the HRH plan at each level of the H. system
- Need to tackle attrition and internal migrations from rural to urban areas and to international NGOS and donor projects.
- Improvement to the SWAp, including better coordination and better pooled resources
- HRH infrastructure

##### **Key Actions Resulting**

Key action	Key Changes in behaviour required	Responsibilities	Outputs/indicators
<b>1. Strengthen HRH Production Systems</b>			50% increase in intake of nurse & COs training by 2010
- investment in infrastructure (space, housing, materials, equipment)	<ul style="list-style-type: none"> <li>• Donors committing to increased flexibility in funding esp. investing in infrastructure</li> <li>• Government adopting more innovative ways to overcome systems capacity constraints</li> </ul>		Increase in proportion of donor resources committed to infrastructure development
-train, recruit and retain XXX tutors (including expatriates) <i>How, by when?</i>	<ul style="list-style-type: none"> <li>• Promote culture of skills sharing in short term i.e. hiring of tutors from better resourced countries or contracting(on part time) those working for NGOs in-country</li> </ul>		Number of expatriate tutors hired
Explore opportunities for public private partnership for training with MOH doing accreditation of private facilities	MOH and government of Zambia in general open to PPP		
<b>Introduce performance</b>	<ul style="list-style-type: none"> <li>• Promote a culture of accountability &amp; transparency</li> </ul>		Increase in % of appraisals that result

Key action	Key Changes in behaviour required	Responsibilities	Outputs/indicators
<b>management package for increased mgt productivity (what, by when, how much, output?)</b>	<ul style="list-style-type: none"> <li>Provide incentives for accountability &amp; transparency</li> </ul>		in quality improvements
-plan for implementation of PM package for managers and health workers	Performance management taken as core function of HR managers at all levels.		
<b>Mobilise funding for HRH plan (from disease specific programmes)</b>	<ul style="list-style-type: none"> <li>GFATM to support pre-service training</li> <li>More donors + MoF to provide flexible financing to HRH plan</li> </ul>		MoF & doors to reduce funding gap by 60% by 2010, based on results
<b>Speed up recruitment &amp; distribution of Staff (urban/rural + competencies)</b>	<ul style="list-style-type: none"> <li>GoZ &amp; donors ensure resources committed for recruitment at least 3 months before graduation</li> <li>Introduce competence based retention/incentives (e.g. transport, phone, distance learning)</li> </ul>		
<b>Improve retention/expansion to other cadres beyond doctors</b>	<ul style="list-style-type: none"> <li>Donors compensate GoZ for results of distortions (e.g. hiring of staff out of public sector)- agree code of conduct and wage cap for NGOs/Donor projects</li> </ul>		Reduce annual attrition by 1% Reduce vacancies in rural areas for key cadres.
<b>Design HRH information system which is integrated with existing health and finance information systems (e.g. IFMIS, HMIS, PMEC etc.) (what, by when, how much, output?)</b>	<ul style="list-style-type: none"> <li>PEPFAR able to provide financing to this</li> </ul>		
<b>Monitoring &amp; evaluation</b>			

Notes prepared by Benedict David / Dyness Kasungami (DFID).

Source: Global Health Workforce Alliance (2008). "Promoting Synergy Between Partners" Meeting Notes. Addis Ababa, Ethiopia: 10-11 January 2008.

**Annex 5: ECSA 46<sup>th</sup> Ministerial Meeting – HRH Resolution****ECSA/HMC46/R2: Improving Human Resources for Health for Effective Health Care Services**

**The 46<sup>th</sup> ECSA Health Ministers' Conference,**

**Acknowledging** the central role of human resources in the provision of health care and the attainment of Millennium Development Goals;

**Aware** of the current human resources for health crisis in the ECSA region that is characterized by widespread shortages, geographical mal-distribution, inappropriate skill mix and unfavorable working conditions;

**Recognizing** that the health workforce crisis will not be resolved by ministries of health working in isolation, but through inter-ministerial collaboration between ministries of health and other ministries such as finance, education and public service;

**Further noting** the involvement of the private sector, civil society organizations and professional bodies is necessary to ensure an effective national response to the health workforce crisis;

**Recalling** years of gross underinvestment in the health workforce, and the significant impact of this underinvestment on health outcomes;

**Noting** that countries are at various stages of developing and implementing their human resources for health plans;

**Recognizing** that leadership and governance is an important component of human resources management;

**Noting that** countries are at various stages of establishing their health workforce observatories including a sound human resources information system;

**Recalling** WHO, AU and ECSA Health Ministers' resolutions in addressing the health workforce crisis which emphasize the importance of managing migration, development of human resources policy and scaling up the health workforce; and

**Acknowledging** the importance of engaging all relevant stakeholders and partners in taking forward the human resources for health agenda.

**Urges Member States to:**

1. Adopt the ECSA Human Resources for Health Strategy and support its implementation;
2. Review and operationalise costed national human resources for health strategic plans, and link them to the national health priorities for delivery of effective health care by 2010;
3. Invest and mobilize resources for the implementation of the human resources for health plans in collaboration with stakeholders including the ministries of finance and planning, development partners and the private sector;
4. Strengthen institutional capacities for human resources for health governance and leadership through priority investment in human resources for health departments to ensure mandate and status, adequate staffing, structures and financial resources;
5. Accelerate the establishment and use of National Health Workforce Observatories to improve quality of evidence and information on health workforce, to facilitate informed policy dialogue, monitoring and evaluation of human resources for health strategies by 2010.

## Annex 6: Presentation at the HRH Technical Working Group.

### Zambia: Taking Forward Action on HRH

**Presentation to the HRH Technical Working Group**  
**22 January, 2009**  
**Lusaka, Zambia**

*Jim Campbell, Integrare, Spain  
Margaret Caffrey, LATH, Malawi*



### Background to PEPFAR/IHP collaboration

- Jan 08: Addis Ababa: side-meeting at launch of Task Shifting Guidelines
- Mar 08: Kampala: side-meeting at Global Forum on HRH (GHWA - Kampala Declaration + A4GA)
- Apr 08: Mozambique – joint review
- Apr 08: Bush / Brown statements (Washington)
- Jun 08: Brown / Bush statements (London)
- Jul 08: G8 Communiqué
- Jul 08: PEPFAR Reauthorisation – 140,000 new HCWs
- Sep 08: Kenya – joint review
- Sep 08: Brown +HLF MDGs – statements (New York)
- Jan 09: Zambia visit
- Mar 09: Ethiopia visit (dates TBC)



### Global Context

*PEPFAR – 140,000 new health workers  
JICA – 100,000 new health workers  
Taskforce on Innovative Financing for Health Systems – 1 million new health workers.  
International Health Partnership (IHP) – increasing focus on HRH  
Global Fund – National Strategy Applications (NSAs)  
EC Programme for Action on HRH – CSO funding opportunities  
OECD – health as a tracer sector*



### Zambian HRH situation

- High level political commitment
- HRH Strategic Plan
- Coordination structures or implementation
- CP support
- 3 years of implementation of priority activities
- 2009 Action Plan addressing MTR recommendations
- Emerging from the HRH 'crisis'??



### Intervention points for supporting HRH



### Mid Term Review – HRH

- Reviewed progress against the strategic objectives in the NHSP and the HRH Strategic Plan
- Documented achievements
- Highlighted challenges
- Identified priorities
- MTR recommendations on addressing priorities & overcoming challenges endorsed



<p><b>MTR HRH Recommendations</b></p> <p><b>Human Resource Planning</b></p> <ul style="list-style-type: none"> <li>• Consolidate data and establish HR baseline</li> <li>• Strengthen HR planning</li> </ul> <p><b>Human Resource Management</b></p> <ul style="list-style-type: none"> <li>• Strengthen HRM systems and practices</li> <li>• Decentralise HR functions and processes</li> <li>• Performance management systems</li> </ul> <p><b>Human Resource Development</b></p> <ul style="list-style-type: none"> <li>• Increase student intake</li> <li>• In-service training strategy</li> </ul> <p>See Annex 1</p> <p style="text-align: center;"></p>	<p><b>Looking Forward: next steps</b></p> <p><b>HRH STRATEGIC PLAN (2006-2010)</b></p> <p><b>MoH ACTION PLAN (2009)</b></p> <p><b>MTR (2010-11)</b></p> <p><b>MoH ACTION PLAN (2010)</b></p> <p><b>HRH STRATEGIC PLAN (2011-2015)</b></p> <p><b>HMSP (2011-2018)</b></p> <p><b>MoH (2011-2018)</b></p> <p><b>MoH (2011-2018)</b></p> <p><b>MoH ACTION PLAN (2011)</b></p> <p style="text-align: center;"></p>
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<p><b>Looking Forward: Building Blocks (Information Base)</b></p> <p><b>HRH STRATEGIC PLAN (2011-2016)</b></p> <p><b>HMS:</b> existing</p> <p><b>Training Institutions:</b> existing</p> <p><b>Payroll (PMIS):</b> existing</p> <p><b>HR Audit/Need count:</b> ongoing/active</p> <p><b>Retention Scheme:</b> under review</p> <p><b>CHW/CBS Study:</b> not started</p> <p><b>CHART:</b> planned/active</p> <p><b>Zambian Medical Council:</b> incomplete</p> <p><b>General Nursing Council:</b> initial review</p> <p style="text-align: center;"></p>	<p><b>COORDINATION</b></p> <p><b>HARMONISATION</b></p> <p><b>TRIANGULATION</b></p> <p><b>VALIDATION</b></p> <p><b>Looking Forward: Building Blocks</b></p> <p><b>Improving the evidence base</b></p> <ul style="list-style-type: none"> <li>• Monitoring and evaluation framework for HRH Plan</li> <li>• Studies and research to assess impact and improve HRH intelligence (see Annex 2)</li> <li>• Documenting and disseminating findings/learning</li> <li>• Lessons learned inform next HRH Strategic Plan</li> </ul> <p style="text-align: center;"></p>
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<p><b>Taking Forward Actions on HRH</b></p> <ul style="list-style-type: none"> <li>• Alignment with MoH 2009 Action Plan</li> <li>• Working to comparative advantage</li> <li>• Strategic planning focus – building blocks</li> <li>• Alignment with wider public service reforms</li> <li>• Zambia health sector leading by example (e.g. as a tracer sector)</li> </ul> <p style="text-align: center;"></p>	<p><b>Questions?</b></p> <p><b>For further information:</b></p> <p>Jim Campbell: <a href="mailto:jim.campbell@integrase.es">jim.campbell@integrase.es</a></p> <p>Margaret Caffrey: <a href="mailto:mcaffrey@lath.com">mcaffrey@lath.com</a></p> <p style="text-align: center;"></p>
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## **Rational Pharmaceutical Management Plus Quality Assurance of Medicines in Zambia – An Assessment Visit to the Zambia Pharmaceutical Regulatory Authority: Trip Report**

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Dat Tran  
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June 2006



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Strategic Objective 5

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## **About RPM Plus**

The Rational Pharmaceutical Management Plus (RPM Plus) Program, funded by the U.S. Agency for International Development (cooperative agreement HRN-A-00-00-00016-00), works in more than 20 developing countries to provide technical assistance to strengthen drug and health commodity management systems. The program offers technical guidance and assists in strategy development and program implementation both in improving the availability of health commodities—pharmaceuticals, vaccines, supplies, and basic medical equipment—of assured quality for maternal and child health, HIV/AIDS, infectious diseases, and family planning and in promoting the appropriate use of health commodities in the public and private sectors.

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## **Abstract**

Dat Tran and Peter Risha traveled to Lusaka June 19-23, 2006 to assess the regulatory environment of pharmaceuticals in Zambia. They met with the Zambia Pharmaceutical Regulatory Authority and other partners to discuss strategies to strengthen the pharmaceutical quality assurance system in Zambia.

## **Recommended Citation**

Tran, D. and P. Risha. 2006. *Quality Assurance of Medicines in Zambia – An Assessment Visit of the Zambia Pharmaceutical Regulatory Authority: Trip Report*. Submitted to the U.S. Agency for International Development by the Rational Pharmaceutical Management Plus Program. Arlington, VA: Management Sciences for Health.

## **Key Words**

Quality assurance, Minilab, Zambia, PRA, TFDA

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## Contents

ACRONYMS .....	v
BACKGROUND .....	1
Purpose of Trip .....	1
Scope of Work .....	2
ACTIVITIES.....	3
Collaborators and Partners.....	9
NEXT STEPS .....	11
Immediate Follow-up Activities .....	11

## BACKGROUND

The circulation of low quality medicines – lacking or having none or the wrong active pharmaceutical ingredient (API) – is a major public health concern worldwide. This is especially a problem with antimicrobials, as they play a key role in the treatment of major infectious diseases such as malaria, tuberculosis, and HIV/AIDS. Poor quality antimicrobials present a substantial barrier to providing proper clinical care, often leading to decreased treatment effectiveness, increased morbidity and even mortality, and the development of antimicrobial resistance (AMR).

The primary factor contributing to poor quality medicines is the lack of regulation. Therefore, Drug Regulatory Authorities (DRAs) must play a leading role in any quality assurance (QA) effort. A good QA system has many interlinked components, which must be applied in concert to be effective. The major challenge for many resource-limited countries is priority – how best to allocate limited resources to accommodate the greatest needs in both technical (e.g., registration, laboratory testing, inspection, etc.) and managerial (e.g., laboratory management, documentation, training, etc.) areas of regulation.

RPM Plus/Management Sciences for Health (MSH) has extensive experience in pharmaceutical management worldwide, including Africa. Since 2001, MSH has been collaborating with the Tanzanian Food and Drugs Authority (TFDA) to develop a cost-effective QA system, based on product testing at ports of entry (using portable testing kits called Minilab), coupled with standardized and structured inspection.

The effort in Tanzania has led to the improvement of quality control of medicines. Now, with support from USAID (RPM Plus core funds SO5/AMR), the MSH/TFDA partnership seeks to use the successes and key lessons learned in Tanzania to improve medicine QA in other countries in the region, including Zambia. To facilitate this process, MSH/TFDA began by sharing a concept paper with the Pharmaceutical Regulatory Authority (PRA) of Zambia, outlining the key details of program implementation in Tanzania. In response, PRA showed great interest and enthusiasm in working with MSH.

## Purpose of Trip

To further push the collaboration forward, Drs. Peter Risha and Dat Tran, both Senior Program Associates of RPM Plus, traveled to Lusaka the week of June 19-23, 2006 to learn of the pharmaceutical environment of Zambia and discuss with the Zambia Pharmaceutical Regulatory Authority (PRA) an implementation plan consistent with the physical and human resources of Zambia.

In addition to meeting with PRA senior staff, the RPM Plus team also visited other relevant QA partners in Zambia, including: WHO country office; Food and Drugs Laboratory; University of Zambia Department of Pharmacy; Zambia MOH (Director of Clinical Services and Diagnostics); Churches Health Association of Zambia (CHAZ); National Council for Scientific and Industrial

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Research (NCSIR); Medical Store Ltd; Pharco Ltd (analytical services); Melcome Pharmaceuticals Ltd (wholesale outlet).

## **Scope of Work**

The scope of work for Drs. Tran and Risha on this trip was to:

- Meet with PRA Director General and other key staff, as well as other relevant members of MOH to discuss project implementation
- Meet with the antimicrobial resistance (AMR) working group of Zambia and World Health Organization (WHO) country office to introduce QA project
- Visit the Food and Drug Control laboratory and the University of Zambia to learn about current laboratory testing methods
- Visit other relevant QA partners, including key private health provider Churches Health Association of Zambia
- Provide a briefing and/or debriefing to USAID/Zambia, as needed.

Under this scope of work, the specific objectives included:

- To learn about the structure and functions of PRA and its system of regulating pharmaceuticals in Zambia, including inspection
- To learn about pharmaceutical quality testing capacity of PRA and its food and drug control laboratory
- To prepare a visit for PRA and MOH of Zambia to Dar es Salaam, Tanzania to i) formalize partnership, ii) learn about TFDA QA program implementation and iii) visit Minilab zonal centers in Tanzania

## ACTIVITIES

### **Visits to relevant QA partners in Lusaka**

The Zambia Pharmaceutical Regulatory Authority assisted the RPM Plus team in identifying key QA stakeholders and arranging visits to the respective individual institutions. These include both government agencies at the Ministry of Health (MOH), as well as private organizations that are key links in the pharmaceutical chain in Zambia.

#### WHO Country Office

*Dr. Chipayeni Mtonga, Health Officer in charge of Health Systems*

The key points from the discussion with Dr. Mtonga include:

- Pharmaceutical quality is a big problem of health system in Zambia.
- Lack of border control leads to flow of poor quality medicines from other countries, including HIV, TB, malaria medicines. (Democratic Republic of Congo was mentioned as a suspected entry point for many poor quality medicines.)
- Under the recent new law, PRA is now strengthened by a new mandate and more structured organization compared to its previous form (see PRA section for more information).
- Even in its current form, PRA is still not fully functional and lacks personnel on the ground, especially pharmacists and pharmacy assistants. Added to the human resource problem is the difficulty of retaining trained pharmacists in Zambia; many pursue employment opportunities in other countries, where salaries and benefits are more competitive.
- The post-marketing monitoring of product quality is very limited. A regulatory response usually only occurs when there is an adverse reaction reported. For example, in one case, patients were reported to be worse after being treated with poor quality acyclovir for ophthalmic herpes zoster. In this case, PRA recommend that patients bought a specific brand name, which was known to be of good quality.
- There is a functional registration system in place, including a licensing process for importers, but customs inspection is weak – inspectors do not know how to interpret and understand scope of import authorization, e.g. products not registered by companies that have been approved for other products.
- In the past, the WHO country office has provided technical assistance to PRA, in the form of training in analytical methods. Dr. Mtonga also sees a future role for the WHO country office in assisting PRA in establishing its national quality control laboratory, both in terms of TA and providing equipment (the establishment of a national drug quality laboratory has been approved by MOH).

### Food and Drug Laboratory (FDL)

*Mrs. Margaret Sakala Mazhamo, Director*

The Food and Drug Laboratory (FDL) is part of the MOH, but does not function as part of PRA. With the change in mandate in 2004, FDL will focus solely on food testing, while all drug-related testing will be done by the National Drug Quality Control Laboratory (NDQC) of PRA.

The key features and discussion points of the visit include:

- Mandate originates from Food and Drug Act in 1978, covering food, drugs, cosmetics, and medical devices
- FDL is organized according to the following departments: forensic, chemistry, microbiology, and instrumental
- FDL has a total staff of 24 (2 Masters of Science, 3 Bachelor of Science, 1 pharmacist, 10 technicians), which includes 3 senior-level “public analysts,” who are responsible certifying test results
- FDL provides analytical services to many agencies within the government: inspectorate (responsible for field sampling); police (blood, alcohol, rape cases); hospitals (common requests from UTH for suspected cases poor quality medicines (e.g., patients not responding to a specific batch of quinine from Kenya); drug enforcement commission (psychotropics, narcotics)
- It also provides analysis for a fee for service to manufacturers
- Majority of samples tested by FDL involve psychotropics, microbiology tests of disinfectants, IV solutions, etc. The rest involves testing of water samples (E coli etc.)
- FDL performs ca. 2000 samples/year, but very few for quality of pharmaceuticals
- FDL is equipped with only basic instruments: TLC, GC, UV/vis and IR (not working). It has provided TLC training on some occasions to pharmacy students

### Department of Pharmacy, University Teaching Hospital (UTH) – University of Zambia

*Dr. Lungwani Muungo, Head, Department of Pharmacy*

The team discussed with Dr. Muungo, among other things, training experience of the school of pharmacy. UTH is viewed as potential partner for training/certifying pharmacists or pharmacy assistants. Key features and discussion points of visit include:

- The pharmacy degree program officially started 6 years ago and is still being restructured
- There are 8 full-time faculty responsible for teaching core courses
- The degree program has 2 phases: pre-clinical (2 years) covering basic sciences (physiology, biochemistry, anatomy, etc. on medical campus) and practical (3 years) which is patient-based training, working with med students in UTH. The program also includes an internship requirement which provides hands-on training at pharmaceutical companies
- To date, the school has produced 10 graduates. Currently there are 37 students in the practical phase, 29 doing internships and 40 more expected next year. The program, once in full operation, is expected to produce an average of 35 pharmacists/year

- Graduates require certification to be employed – this is provided by the pharmacy professional body
- Currently, pharmacy students are not very familiar with quality assurance and other regulatory issues in general, in part due the newness of PRA

### **Churches Health Association of Zambia (CHAZ)**

*Mr. Chipupu Kandeke, Manager Pharmaceutical Services*

Key features and discussion points from visit to CHAZ include:

- CHAZ is a private NGO, providing health services to approximately 30% of the population in Zambia and almost 50% when considering only rural areas
- It has 126 members, including health centers in rural areas
- It has a staff of 8 responsible for pharmaceutical services
- CHAZ procures medicines and stores and distributes them from its own warehouse in Lusaka (part of the administrative building complex), including all essential medicines, including TB, malaria, and HIV
- CHAZ has a need for technical assistance in different areas of QA, especially for the use of Standard Operating Procedures (SOPs). For examples, efforts are being made to provide clear guidelines and protocols for storage and distribution practices. A typical problem mentioned is inspection, where products come from non-prequalified manufacturing facilities (in some cases, the same companies have been approved for pre-qualification, but for different manufacturing facilities)
- With regard to QA, CHAZ relies on WHO-prequalification and Global Fund to procure medicines. Currently, there is not product testing being done.
- According to Mr. Kandeke, the integrity of APIs of many medicines are uncertain; CHAZ needs quick way to screen for APIs at critical points and has begun to explore the use of Minilab for this purpose

### **AMR working group of Zambia**

The RPM Plus team met with the AMR working group to brief them of RPM Plus planned QA activities in Zambia and quality-related implications for AMR.

*Prof. Chinfumbe Chintu, Chair*

*Dr. Ray Handema, National Council for Scientific and Industrial Research (NCISIR)*

*Dr. JCK Chisanga, President, Faculty of General Practitioners*

*Dr. Veleri C Mtunga, Director Technical Support Services, MOH*

*Dr. James C. Mwansa, Microbiology, University Teaching Hospital (UTH)*

*Dr. Ruth Mudondo, Pharmacist, Unicare Pharmacy*

- Prof. Chintu gave overview of AMR working group activities. The focus of the group is tracking resistance pattern in various microbes (virus, parasite, bacteria, etc.)
- The resistance work is supported by a good microbiology laboratory

- A key activity involves medical school curriculum review, specifically how to increase emphasis on AMR
- Other activities include i) using mass media campaign, i.e. radio spots, to raise public awareness about AMR ii) disseminate standard treatment guidelines (STGs), with a focus on antiretrovirals (ARVs)
- The group members were supportive of the planned QA project and agreed that there is a crucial need to improve the quality screening of medicines

#### **Zambia Pharmaceutical Regulatory Authority (PRA)**

*Ms. Esnat Mwape, Acting Director General*

*Mr. Felix Chizu, Senior Pharmacist and QA project liaison*

*Mr. P. Mangisha, Product Registration*

The RPM Plus discussed with senior staff of PRA to learn (i) more about PRA regulatory functions and (ii) other relevant background information relevant implementation QA system in Zambia. The pertinent information about PRA includes:

- The Food and Drug act was revised in 2004 to establish PRA; it was launched in 2005
- The PRA board, the decision making body, has 21 members from diverse background: pharmaceutical association members, consumers, traditional healers, academics, etc.
- PRA is organized into 4 major departments: Administration & Finance; Inspectorate; Registration; Quality Control
- With the new mandate, the – soon to be established – National Drug Quality Control Laboratory (NDQCL) will take over the testing of all medicines from Food and Drug lab, which will solely focus on foods
- There is no current post marketing surveillance in place in Zambia
- PRA's current professional staff includes: 3 pharmacists and 3 pharmacy technicians, including 1 posted at Lusaka airport for inspection
- When fully operational, the new mandate from recent legislation calls for an increase in inspectorate staffing, with 3 inspectors at central level, plus an additional 4 inspectors and 2 technicians at regional level
- Inspection network is divided into 4 regions, each headed by a senior officer, who coordinates with the Registration Department of PRA and reports to Director of Inspectorate of PRA
- The current registration was started formulated in 1989 and implemented in 1993. Currently there are 6 evaluators for registration; future plan will include use 3 additional external experts from medicine committee to increase technical expertise base in areas such as microbiology, clinical studies, etc.
- Zambia is an active participant in Southern African Development Community (SADC) harmonization effort in registration. The long-term goal is to integrate SADC standards into PRA, but this not possible at the moment due to SADC countries being at drastically different levels of regulatory development. Currently, there are no exemptions to SADC members for product evaluation and registration
- The current registration system provides guidelines to applicants and requires an annual fee for retaining license once approved

- Starting in 1999, the policy was changed to make a license valid for 5 years instead of 1 year. By law, the revenue generated from registration fees stays within the PRA
- Starting in July 2006, PRA will start to monitor the importing of pharmaceuticals, although the system is not yet capable of checking the validity of certificate of analysis submitted by applicant, i.e. there is no product testing
- PRA carries out pre-licensing inspection of local manufacturers according to WHO GMP standards, but this function is weak due to the lack of inspectors
- Strong consideration for approval is granted to foreign products that have been approved by other reputable DRAs
- Other factors considered for registration of foreign products include: registration status in other countries; WHO pre-qualification scheme; new chemical entities; BA/BE requirements for generics
- Since 1999, about 2500 products have been registered in Zambia, with the majority being generics, especially antibiotics and antimalarials. Currently, there is a registration surge for ACTs and herbal products
- The registration system is currently being upgraded and computerized. That has resulted in increased efficiency, with evaluation backlog reduced to the current number of less than 300 applications
- The average time required for generics to be approved is approximately 3 months

#### Discussion of QA implementation plan in Zambia

With the regulatory background in place, PRA and the RPM Plus team discussed how best to adapt the QA system developed in Tanzania, based on use of Minilab and standardized inspection, for Zambia. Specifically, the partners discussed key entry points of pharmaceuticals in Zambia for Minilab screening, as well as how to integrate the inspection training component into existing training programs already planned in Zambia. The discussion also touched on how best to leverage resources for the QA implementation. The key points of the discussion are:

- The major entry points for pharmaceuticals in Zambia, in order of quantity are: (1) Lusaka airport; (2) Nakonde; (3) Livingston; (4) Kasumbalesa; (5) Chirundu
- PRA estimates that top 2 locations are responsible for almost 60% of pharmaceuticals that enter country
- The partners will work, if possible, to integrate a WHO-sponsored training program for inspectors (planned for September 2006). This depends, in part, on the nature of the training is not clear to PRA at this point
- PRA pointed out some key indicators a strong momentum and commitment are in place to implement QA: (i) there is a strong commitment from MOH, whose permanent Secretary of Health is a chairman of the PRA board (ii) by law, revenue generated from product registration stays within PRA and therefore, can be used to improve its regulatory functions (iii) the Minilab and inspection components are already included in the proposed plan to establish a new NDQCL.

**National Council for Scientific and Industrial Research (NCSIR)**

*Dr. Lewanika, Executive Director*

*Dr. Ray Handema, Senior Scientist and Assistant to Dr. Lewanika*

The team paid a brief visit to NCSIR, part of the Ministry of Science and Technology (MST). It serves as an advisory body to the government on issues related to science and technology, especially in identifying gaps in research and development.

NCSIR is involved in a broad range of basic and applied research areas, including those in the biological sciences. Their activities range from genetically modified food, food and drink formulation, pharmaceutical analysis, etc. to information management systems. It has well-equipped laboratories, with standard modern instruments such as High Performance Liquid Chromatography (HPLC), UV/vis, IR, calorimetry, etc.

NCSIR also has capacity, i.e. clean room, for microbiological analyses such as sterility tests. It provides analytical services to government agencies, as well as fee-for-service to private industries. In addition, it also provides training in analytical methods to university students and industry laboratory personnel.

**PRA inspection office – Lusaka Airport**

*Mr. Osborne Kamwale, inspector*

The team met briefly with Mr. Kamwale, who gave an overview of the inspection process at the Lusaka Airport. He is the sole staff responsible for inspection pharmaceutical consignments that arrive via the airport. The activities at this office are limited to physical inspection, checking for registration status of products, expiry and manufacturing dates, etc. Currently, Mr. Kamwale has no access to PRA computerized registration database and relies on phone calls and faxes to check product registration. However, according to him, this situation is being changed so he will have direct access to the database.

**Medical Stores Ltd. (MSL)**

*Ms. Anne Zulu, Director of Pharmaceutical Standards*

*Mr. Davy Simonga, QA Manager*

MSL is the central warehouse, responsible for storage and distribution of pharmaceuticals to all sites at the regional and local level. It is worth noting that it has no role in the procurement process. It has a staff of 6, including 2 pharmacists, 2 pharmacy technicians, and 2 others. Currently, the majority of pharmaceuticals in the warehouse is antiretrovirals (ARVs), most manufactured in India.

Upon receipt, MSL performs visual inspection (labeling, manufacturing and expiry date, etc.). Next, products are quarantined and sampled by batch for quality testing at Pharco, a private laboratory service located next door to MSL (see next section). Microbiological tests are sent to

University of Zambia teaching hospital for analysis. Once products have passed quality testing, they are then stored for distribution.

MSL is in the process of revising their standards, which includes developing guidelines and standard operating procedures (SOPs) for all warehouse workers. Dr. Zulu said there will be a training to apply these new standards. A quality manual is also being developed and is scheduled to be completed by August 2006.

### Pharco Analytical Services

Pharco was, at one time, a manufacturing facility but now is no longer operational (for reasons that are not clear). It now provides analytical services to both government and private industry. It provides quality control for about 80-90% of products from MSL. Its laboratory consists of 3 analysts, who perform tests according to USP or BP standards, using dissolution, HPLC, UV/vis, and IR. (if monographs are not available, they are provided by manufacturers).

### Director of Clinical Care and Diagnostics, MOH

#### *Dr. James Simpungwe*

On the last day of the visit, the team had a meeting with Dr. James Simpungwe at MOH to formally present an overview of the QA project and discussed the partnership with PRA. Dr. Simpungwe was enthusiastic and indicated that he would be supportive of the planned activities. He gave his approval and said he would recommend to senior MOH officials to push the initiative ahead.

### Melcome Pharmaceuticals Ltd., wholesale outlet

#### *Dr. A. K. Sharma, Chief Executive Officer*

The team paid a short visit to Melcome, a private wholesale outlet which distributes medicines to multiple locations in and around Dar es Salaam. Dr. Sharma gave a short tour of the storage facilities, which appeared to be in good condition. Medicines were stored off the floor, with proper shelving and labeling. According to Dr. Sharma, SOPs are in place for all workers involved with handling of medicines. Typically, upon receipt, workers perform physical inspection of products (breakage, expiry and manufacturing dates, etc.) and check certificate of analysis for quality.

## **Collaborators and Partners**

The key collaborators and partners on this visit were:

- Ms. Esnat Mwape, Acting Director General, PRA
- Mr. Felix Chizu, Senior Pharmacist, PRA and project liaison



## **NEXT STEPS**

### **Immediate Follow-up Activities**

- MSH and PRA will explore how best to coordinate inspection training programs by sharing training materials to identify common training objectives
- MSH will discuss with TFDA to arrange a visit to Dar es Salaam for PRA. The key objectives of the trip include: (1) to learn first-hand of the QA system in Tanzania, including its registration and inspection systems; (2) to visit the Minilab center at Dar es Salaam harbor to see how inspectors carry out their duties and (3) to discuss with TFDA and MSH about the next steps of project implementation, including agreement on key terms of collaboration

# **Workshop on flexibilities in International Intellectual Property Rules and Local Production of Pharmaceuticals for Southern, Central and West African Region**

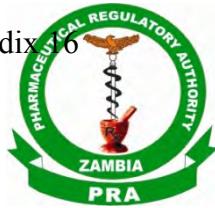
**7 – 9 December, 2009**  
**Cape Town, South Africa**

**Registration of Medicines: Zambian Experience**

**Presented by Ms Esnat Mwape, Director General  
Pharmaceutical Regulatory Authority, Zambia**

# Presentation outline

- Zambia's Geographical position
- Background information
- Registration System for Medicines
- Challenges
- Brief overview of Patents Legal Framework
- Conclusions



# Background information

- ***Brief history (1)***

*The history of medicines regulation in Zambia dates back to 1941 when the Pharmacy and Poisons Act, Chapter 299 of the Laws of Zambia was first enacted. This Act was to provide for the control of the profession of pharmacy and trade in drugs and poisons. The Pharmacy and Poisons Board (PPB) was established under this law to oversee its enforcement.*

# The Pharmaceutical Act No. 14 of 2004 (1)

- Pharmaceutical Act (No. 14) of 2004 was enacted in August 2004 and came into force in November 2004
- The Act establishes the Pharmaceutical Regulatory Authority as an autonomous body corporate, the PRA Board and a Secretariat
- Clearly stipulates functions of the PRA



# The Pharmaceutical Act No. 14 of 2004 (1)

The Act vests powers in the Board to:

- appoint committees to assist in the performance of PRA functions.
- Appoint staff of the PRA including the CEO
- The Act further provides powers for the Minister of Health to make regulations on recommendations of the PRA Board.



# Legal basis for medicines registration

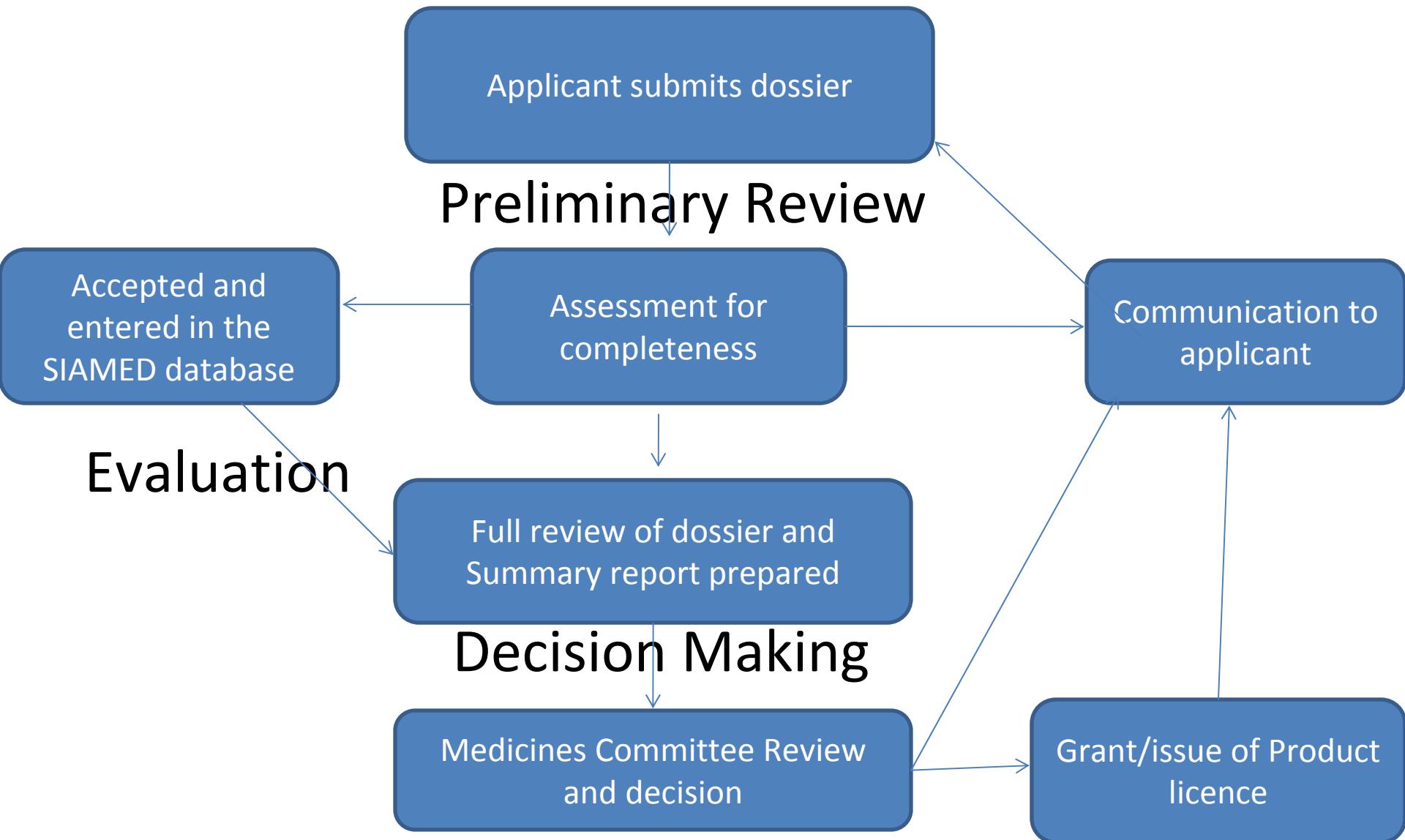
- Subject to other provisions , the Pharmaceutical Act requires that all medicines intended to be placed on the Zambian Market be the subject of a product licence or Marketing authorization issued by the Authority

# Requirements for registration of a medicine

- Objective: To protect public Health by ensuring the quality, safety and efficacy of medicines to be placed on the market
- Applicant required to submit a dossier in the prescribed format
- Dossier must contain detailed information on:
  - Quality Assurance including GMP and Quality controls
  - Safety – Toxicological and pharmacological data
  - Efficacy – Clinical data
  - For certain Multisource generic products applicant is required to demonstrate interchangeability with innovator product
- Patent Registration is not a pre-condition for placement of a medicinal product on the market



# The Registration System for Medicines



# Registration system

## 1. Preliminary Review

- Completeness of application
- Application must be in the required format and supported by detailed technical information as may be appropriate
- Administrative data with respect to the applicant (Prospective PLH)manufacturing site, status of manufacturer , fees paid, samples
- Acknowledgement and entry into PRIMS

# Registration system cont...

## 2. Evaluation :

- This depends on the nature of the application , i.e. Standard application or Fast track
- Timelines for review are yet to be established
- Extent of review depends on the nature of the product, i.e. locally manufactured product, WHO Pqed, Registered by stringent DRAs within and outside the region, new chemical entity or generic application

# Registration system...

- Due to insufficient capacities QC is not routinely carried out as part of assessment
- GMP inspections may be carried out on the recommendation of the Medicines Committee
- Assessment report is prepared in the required format and presented to the Medicines Committee with the recommendations on Q, S, E.

# Registration System...

- Decision of the Committee may be positive , negative or deferred pending further submission of the required information as may be directed by the Committee
- If positive, a product license is issued and is subject to certain conditions as may be appropriate; and
- Applicant required to comply with labelling requirements as stipulated under the regulations and expected to pay annual retention as required by the Act

# Registration system...

- If decision of the Medicines Committee is negative, the applicant is informed accordingly and reasons given in writing for non-issuance of the product license
- Applicant may appeal against the decisions of the Authority as per the appeal procedures
- In cases where additional information may be required the applicant is requested to submit within a defined timeframe failure to which the application may be cancelled

# Registration system...

- Data in respect of a registered product is maintained by way of a WHO computer-assisted medicines registration programme called SIAMED.
- There is a procedure for variations and all variations need to be notified to the Authority

# Post marketing Surveillance

Monitoring and Evaluation mechanism for licensed medicinal products

- Sampling and testing of products
- Pharmacovigilance activities
- General surveillance activities to ensure adherence to licensing terms and conditions

# Challenges

## Systems

- Poor Infrastructure
- Insufficient Human and financial Resources
- Inadequate qualified human resources with appropriate skills

## Environment

- > 90% of products are imported
- low levels of Local manufacture activities

# Brief on Zambia's Patent law

- Zambia is in the category of LDCs
- IP laws as they stand today are as was inherited from our colonial powers – in short they are outdated (Patents Act Cap 400 of 1958)
- A patent is granted for 16 years
- The patent owner is responsible for enforcing his rights as stipulated under the Act including detecting of infringements

# Conclusion

- The registration of a medicine in Zambia is an independent process and based on assessment of safety, quality and efficacy data
- The current IP regime is outdated and not in line with the current TRIPS agreement
- Legal reforms are underway and under the Ministry of Commerce, Trade and Industry.
- MoH is actively participating in the review activities

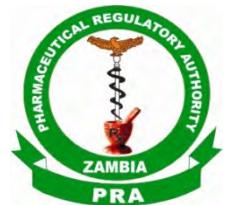
# Finally...

Thanks to UNCTAD and its for inviting Zambia  
to attend this timely meeting

*Merci*

*Obrigado*

*Thank You for your attention*



## Appendix 17: Research Studies Identified by Searching for “HIV AND ZAMBIA” in ClinicalTrials.Gov

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
FEM-PrEP Clinical Trial	Testing safety and effectiveness of a Truvada, a daily oral pill for HIV prevention that combines 2 anti-retrovirals: emtricitabine and tenofovir disoproxil fumarate	FHI; University of Zambia (based on fact that it was approved by UNZA REC)	Lut Van Damme, FHI; Amy Cornelli, FHI	FHI; USAID; BMGF	Recruiting participants as of 7/9/09	<a href="http://clinicaltrials.gov/ct2/show/NCT00625404">http://clinicaltrials.gov/ct2/show/NCT00625404</a> <a href="http://www.fhi.org/NR/rdonlyres/edywdorajmf3cvuiuwugykgzrtemyhvh3qqnylrvjwxp7b2w7livbc7lpsh6pj4vc5kzzumfum/FEMPrEPupdateIssue2.pdf">http://www.fhi.org/NR/rdonlyres/edywdorajmf3cvuiuwugykgzrtemyhvh3qqnylrvjwxp7b2w7livbc7lpsh6pj4vc5kzzumfum/FEMPrEPupdateIssue2.pdf</a>
Vaginal and Oral Interventions to Control the Epidemic (VOICE)	Determining the safety and effectiveness in preventing HIV infection among at-risk women of: 1) daily tenofovir 1% gel compared to placebo gel and; 2) oral tenofovir disoproxil fumarate (TDF) and emtricitabine/tenofovir disoproxil fumarate (FTC/TDF) compared to oral placebo	MTN; CIDRZ	Jeanne Marrazzo, MD MPH, University of Washington; Mike Chirenje, MD, University of Zimbabwe	NIH	Not yet recruiting in Zambia as of 9/16/09	<a href="http://clinicaltrials.gov/ct2/show/NCT00705679">http://clinicaltrials.gov/ct2/show/NCT00705679</a> <a href="http://www.mtnstopshiv.org/node/1416">http://www.mtnstopshiv.org/node/1416</a>

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
Universal Use of EFV-TDF-FTC and AZT-3TC-LPV/r Combinations for HIV-1 PMTCT in Pregnant and Breastfeeding Women: a Phase 3 Trial (UMA)	RCT to “assess the maternal and infant safety of a single daily fixed-dose combination of TDF/FTC/EFV (Atripla®), compared to the association of LPV/r (Kaletra® or Aluvia®) and 3TC/ZDV (Combivir®) given to African women to prevent overall MTCT in populations practicing breastfeeding.	CIDRZ	Didier Ekouevi, MD, Programme PACCI, Cote d'Ivoire; Francois Dabis, Bordeaux 2 U, France	French National Agency for Research on AIDS and Viral Hepatitis  Collaborators Gilead Sciences Merck GlaxoSmithKline Abbott	Not yet open for recruitment (Estimated completion date: 6/2013)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00936195?term=HIV+AND+Zambia&amp;rank=24">http://www.clinicaltrials.gov/ct2/show/NCT00936195?term=HIV+AND+Zambia&amp;rank=24</a>
Observational Study of HIV Infected Women Previously Enrolled in other Microbicide Trials (MTN-015)	Long-term observational case-control study seeking to understand HIV progression and treatment response in HIV-positive women who become infected incidental to their participation in an HIV prevention trial of either a topical microbicide or oral PrEP.	CIDRZ	PI: Muzala Kapina, MD  Contact: Cheri Reid, BSN, MPH	NIAID  Collaborator MTN	Estimated enrollment: 500.  Estimated primary completion date: 5/2011	<a href="http://clinicaltrials.gov/ct2/show/NCT00514098">http://clinicaltrials.gov/ct2/show/NCT00514098</a> <a href="http://www.cidrz.org/ongoing_projects3">http://www.cidrz.org/ongoing_projects3</a> <a href="http://www.mtnstopshiv.org/news/studies/mtn015_qa">http://www.mtnstopshiv.org/news/studies/mtn015_qa</a> <a href="mailto:cheri.reid@cidrz.org">cheri.reid@cidrz.org</a> ; 260-21-1293661 x 141

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
PAS II	Market research study of vaginal film, vaginal table, and soft-gel capsule				Data analysis 10/09	<a href="http://www.microbicide.org/uploads/3/1/2/1/3121935/microbicide_pipeline_update_1_oct_2009.pdf">http://www.microbicide.org/uploads/3/1/2/1/3121935/microbicide_pipeline_update_1_oct_2009.pdf</a>
Routine use of antiretroviral therapy to prevent MTC HIV transmission in Kaufe District of Zambia	Phase IV RCT to test whether use of HAART produces significant reductions in HIV transmission rates with only minimal side effects.	CIDRZ	Benjamin Chi, MD CIDRZ	University of Alabama, Birmingham/ Doris Duke Charitable Foundation	5/09 – 12/12 Recruiting	<a href="http://clinicaltrials.gov/ct2/show/NCT00753324?term=HIV+AND+Zambia&amp;rank=2">http://clinicaltrials.gov/ct2/show/NCT00753324?term=HIV+AND+Zambia&amp;rank=2</a>
Impact of Different Contraceptives on the Immune System of HIV Infected Women in Zambia (MSRC)	66 HIV+ women randomly assigned IUD or Depo Provera to understand potential mechanisms by which hormonal contraception may hasten HIV disease progression	CIDRZ	Elizabeth Stringer, MD, U of AL Birmingham	U of AL, Birmingham	11/08 – 7/10 Ongoing, not recruiting	<a href="http://clinicaltrials.gov/ct2/show/NCT00807625?term=HIV+AND+Zambia&amp;rank=3">http://clinicaltrials.gov/ct2/show/NCT00807625?term=HIV+AND+Zambia&amp;rank=3</a>

Study Name/ Treatment	Description	Research Institutions	Primary Investigator/ Contact	Sponsor/Funder	Study Status	Notes
Community-based Evaluation of a Pilot PMTCT Project in Kafue District: Impact of HAART to Prevent Pediatric AIDS in Rural Zambia	Assessing population effectiveness of using routine HAART as a PMTCT strategy through a community-based survey.	CIDRZ	Benjamin Chi, MD, CIDRZ	U AL Birmingham/ Doris Duke Charitable Foundation	11/08 – 11/11 Ongoing not recruiting	<a href="http://clinicaltrials.gov/ct2/show/NCT00753428?term=HIV+AND+Zambia&amp;rank=5">http://clinicaltrials.gov/ct2/show/NCT00753428?term=HIV+AND+Zambia&amp;rank=5</a>
Mefloquine prophylaxis in HIV-1 Individuals: a randomized placebo-controlled trial	Randomized placebo controlled trial comparing malaria chemoprophylaxis with mefloquine in asymptomatic HIV + adults to placebo in order to 1) assess safety and efficacy of mefloquine and 2) verify if intervention could slow decrease in CD4 counts compared to passive case management of malaria	TDRC	Modest Mulenga, MD Msc PhD, TDRC; Jean-Pierce Van geertruyden, MD Msc <a href="mailto:jpvangeertruyden@itg.be">jpvangeertruyden@itg.be</a>	Institute of Tropical Medicine, Belgium	10/2005 - ??? (Recruiting )	<a href="http://clinicaltrials.gov/ct2/show/NCT00373048?term=HIV+AND+Zambia&amp;rank=6">http://clinicaltrials.gov/ct2/show/NCT00373048?term=HIV+AND+Zambia&amp;rank=6</a> This site last updated 2006, so study likely completed.
Preventing unplanned pregnancies in HIV infected Zambian couples	Evaluating 2 programs for reducing the number of unplanned pregnancies among HIV+ couples in Zambia	Zambia Emory HIV Research Project, Lusaka	Susan Allen, MD, MPH, Emory University Rollins School of Public Health	NICHD	1/2002 - ???	<a href="http://clinicaltrials.gov/ct2/show/NCT00067522?term=HIV+AND+Zambia&amp;rank=7">http://clinicaltrials.gov/ct2/show/NCT00067522?term=HIV+AND+Zambia&amp;rank=7</a> Last updated 2007, so likely completed.

Study Name/ Treatment	Description	Research Institutions	Primary Investigator/ Contact	Sponsor/Funder	Study Status	Notes
HIV viral load monitoring in resource-poor settings	Testing whether routine viral load testing of patients on ART will improve patient survival, decrease disease progression and development of drug resistance, and will be feasible and cost-effective for resource-constrained settings	CIDRZ	Michael Saag, MD, U AL Birmingham	U AL, Birmingham	12/06 – 5/11 Ongoing, not recruiting	<a href="http://clinicaltrials.gov/ct2/show/NCT00929604?term=HIV+AND+Zambia&amp;rank=8">http://clinicaltrials.gov/ct2/show/NCT00929604?term=HIV+AND+Zambia&amp;rank=8</a>
Comparison of Efficacy and Safety of Infant Peri-exposure Prophylaxis w/Lopinavir /Ritonavir vs. Laivudine to Prevent HIV-1 Transmission by Breastfeeding	“Infants will be randomised to receive LPV/r or 3TC twice daily from day seven ( $\pm$ 2 days) after birth until 4 weeks after cessation of breastfeeding (BF).”	UNZA	Zambia PI: Chipepo Kankasa, MD  Zambia Contact: Chafye Siuluta	French National Agency for Research on AIDS and Viral Hepatitis  Collaborators: EDCTP; Research Council of Norway; SIDA; U Montpellier; U Bergen.	Not yet recruiting.  12/2009 – 12/2013	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00640263?term=HIV+AND+Zambia&amp;rank=12">http://www.clinicaltrials.gov/ct2/show/NCT00640263?term=HIV+AND+Zambia&amp;rank=12</a> <a href="mailto:ckankasa@zamnet.zm">ckankasa@zamnet.zm</a> ; +260(1)252662 <a href="mailto:CSiuluta@med.miami.edu">CSiuluta@med.miami.edu</a> +260(1)252661
Antiviral Responses to a Nevirapine-Based Regimen Versus a Lopinavir/Ritonavir-Based Regimen in HIV Infected Infants Who Have or Have Not Received Single Dose Nevirapine for	RCT to compare effectiveness of NNRTI-based regimen vs a PI-based regimen in HIV infected infants who have or have not been exposed to SD NVP.	CIDRZ	PI: Benjamin Chi, MD  Contact: Allison Verbe, MD	NIAID  Collaborator: NICHD	Recruiting (estimated completion 10/2010)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00307151?term=HIV+AND+Zambia&amp;rank=31">http://www.clinicaltrials.gov/ct2/show/NCT00307151?term=HIV+AND+Zambia&amp;rank=31</a>  Allison@cidrz.org

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
the Prevention of Mother-to-Child Transmission of HIV						
NNRTI Versus PI Containing Regimens for HIV Infected Women after They Have Taken Nevirapine to Prevent MTCT of HIV	RCT to compare the effectiveness of NNRTI- and PI-based regimens in 1) women who have taken NVP for prevention of MTCT of HIV and 2) women who have never taken NVP.	CIDRZ	Shahin Lockman, MD, HSPH;  Frederick Sawe, MD, The Walter Reed Project	NIAID  Collaborator: Adult AIDS Clinical Trials Group	(Estimated completion date: 12/2010)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00089505?term=HIV+AND+Zambia&amp;rank=26">http://www.clinicaltrials.gov/ct2/show/NCT00089505?term=HIV+AND+Zambia&amp;rank=26</a>
Pharmacokinetic and GUD Clinical and Virologic Response to Acyclovir in HIV Negative African Women (PK/GUD)	RCT to 1) measure AUC from acyclovir in HIV – heterosexual women w/history of GUD and who are HSV-2 +; and 2) examine time to healing of genital lesion/duration of HSV shedding from GUD among HIV- women w/history of GUD and who are HSV-2+	CIDRZ	Connie Celum, MD, U Washington	U Washington  Collaborators NIAID NIH	Ongoing, not recruiting; Estimated completion date: 12/2010	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00808405?term=HIV+AND+Zambia&amp;rank=28">http://www.clinicaltrials.gov/ct2/show/NCT00808405?term=HIV+AND+Zambia&amp;rank=28</a>

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
A Safety Study of Dapivirine Vaginal Ring in Africa	“This is a double-blind, randomized, placebo-controlled Phase I/II study to assess the safety of a silicone elastomer vaginal ring containing 25mg dapivirine.”	Emory HIV Research Project	PI: Annalene Nel, IPM  Contact: Cindy Hetro	International Partnership for Microbicides, Inc.	Not yet open for recruitment (Estimated completion date: 4/2011)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT01071174?term=HIV+AND+Zambia&amp;rank=27">http://www.clinicaltrials.gov/ct2/show/NCT01071174?term=HIV+AND+Zambia&amp;rank=27</a>  <a href="mailto:chetro@ipmglobal.org">chetro@ipmglobal.org</a> ; 301-608-2221 x 461
Daily co-trimoxazole prophylaxis to prevent malaria in pregnancy	RCT “to establish the safety and efficacy of daily CTX in preventing malaria infection during pregnancy and its consequences, both in HIV infected and non-infected pregnant women.”	TDRC	Christine Manyando, MD, TDRC	Institute of Tropical Medicine, Belgium  Collaborators: Belgian Government TDRC	Ongoing, not recruiting (estimated 4/2011)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00711906?term=HIV+AND+Zambia&amp;rank=14">http://www.clinicaltrials.gov/ct2/show/NCT00711906?term=HIV+AND+Zambia&amp;rank=14</a>
Clinical study of an Aluvia-based HAART regimen for prevention of mother-to-child HIV transmission in Africa	Historical control trial to test safety and efficacy of Alluvia-based HAART regimen during pregnancy to prevent MTCT of HIV.	UNZA	Michael Silverman, MD, U Toronto	UNZA  Collaborator: U Toronto; Abbott	Ongoing, not recruiting (estimated completion 5/2012)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT01088516?term=HIV+AND+Zambia&amp;rank=17">http://www.clinicaltrials.gov/ct2/show/NCT01088516?term=HIV+AND+Zambia&amp;rank=17</a>

Study Name/ Treatment	Description	Research Institutions	Primary Investigator/ Contact	Sponsor/Funder	Study Status	Notes
Differences in Malaria Infection Levels in HIV-infected Infants and Children Receiving PI- and NNRTI-based HAART	RCT “to compare the malarial infection levels in HIV-infected infants and children receiving protease inhibitor (PI)- or non-nucleotide reverse transcriptase inhibitor (NNRTI)-based highly active antiretroviral therapy (HAART).”	NYU School of Medicine	Charlotte Hobbs, MD NYU School of Medicine	NIAID  Collaborator: NICHD	Not yet open for recruitment as of 8/2009 (no estimated completion date)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00719602?term=hiv+AND+Zambia&amp;rank=33">http://www.clinicaltrials.gov/ct2/show/NCT00719602?term=hiv+AND+Zambia&amp;rank=33</a>
Herpes Simplex Virus Type 2 Suppression to Prevent HIV Transmission	Test the efficacy of HSV-2 suppression on HIV transmission among HIV-discordant couples	Zambia-Emory HIV Research Project	Connie Celum, MD, MPH, U Washington	University of Washington  Collaborator Bill and Melinda Gates Foundation	Estimated completion 3/2010	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00194519?term=HIV+AND+Zambia&amp;rank=21">http://www.clinicaltrials.gov/ct2/show/NCT00194519?term=HIV+AND+Zambia&amp;rank=21</a>
Antiretroviral pregnancy registry: a multi-site protocol	Observational study to determine “if antiretroviral drugs are safe and well tolerated by HIV-positive pregnant women and their infants in Cote d’Ivoire and Zambia.”	CIDRZ	PI: Richard Marlink, MD, EGPAF  Contact: Lulu Oguda, MD, MPH	Elizabeth Glaser Pediatric AIDS Foundation (EGPAF)	Last updated 2008. At that time, not open to recruitment, but estimated completion date was 1/2010, so may be finished	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00639145?term=HIV+AND+Zambia&amp;rank=15">http://www.clinicaltrials.gov/ct2/show/NCT00639145?term=HIV+AND+Zambia&amp;rank=15</a> <a href="mailto:ric@pedaids.org">ric@pedaids.org</a> ; 301-491-3144 <a href="mailto:loguda@pedaids.org">loguda@pedaids.org</a> ; 202-296-9165 x 8485

Study Name/ Treatment	Description	Research Institutions	Primary Investigator/ Contact	Sponsor/Funder	Study Status	Notes
PROMISE EBF: Safety and Efficacy of Exclusive Breastfeeding Promotion in the Era of HIV in Sub- Saharan Africa	Testing the safety and efficacy of behavioral peer-support for exclusive breastfeeding.	UNZA School of Medicine	Thorkild Tylleskar, MD, PhD, Centre for International Health	Centre for International Health  Collaborators: European Union; Norwegian Programme for Development, Research and High Education; U Bergen; U Monpelier; Uppsala U; Centre Muraz; UNZA; U Western Cape	Ongoing not recruiting as of 7/2008, but estimated completion 12/2008	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00397150?term=HIV+AND+Zambia&amp;rank=18">http://www.clinicaltrials.gov/ct2/show/NCT00397150?term=HIV+AND+Zambia&amp;rank=18</a>
BufferGel and PRO 2000/5: Vaginal Gels to Prevent HIV Infection in Women	RCT to test safety and effectiveness of BufferGel and PRO 2000 Gel for preventing HIV in women.	CIDRZ	Groesbeck Parham, MD, CIDRZ	NIAID  Collaborators NICHD NIDA NIMH HIV Prevention Trials Network	Completed 11/2007	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00074425?term=HIV+AND+Zambia&amp;rank=19">http://www.clinicaltrials.gov/ct2/show/NCT00074425?term=HIV+AND+Zambia&amp;rank=19</a>

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
Trial to Evaluate PRO 2000/5 Gels for the Prevention of Vaginally Acquired HIV Infection	Phase 3 study testing efficacy and safety of 0.5% PRO 2000/5 gel for prevention of vaginally acquired HIV infection	Medical Research Council	Sheena McCormack, MBBS, MSc, FRCP, MRC Clinical Trials Unit	Endo Pharmaceuticals Solutions  Collaborators Medical Research Council; Dept for International Development, UK	Completed 9/2009	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00262106?term=HIV+AND+Zambia&amp;rank=25">http://www.clinicaltrials.gov/ct2/show/NCT00262106?term=HIV+AND+Zambia&amp;rank=25</a> <a href="http://www.avac.org/ht/a/GetDocumentAction/i/3109">http://www.avac.org/ht/a/GetDocumentAction/i/3109</a>
Plasma Citrulline Concentration in Tropical Enteropathy	To determine whether “plasma citrulline concentration is a marker of small bowel absorptive integrity and an appropriate surrogate for HIV related enteropathy.”	UNZA School of Medicine	PI: Cinzia Papadia, MD, AOU di Parma  Study Chair: Alastair Forbes, U College London Hospitals	Azienda Ospedaliero-Universitaria di Parma	Completed 9/2008	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00816842?term=HIV+AND+Zambia&amp;rank=30">http://www.clinicaltrials.gov/ct2/show/NCT00816842?term=HIV+AND+Zambia&amp;rank=30</a>
Maternal TDF and FTC to Reduce NNRTI Resistance Mutations after Intrapartum NVP	RCT to determine safety and efficacy of adding tenofovir and emtricitabine to std PMTCT regimen of NVP in preventing post-ingestion HIV resistance	U AL	Jeffrey Stringer, MD, U AL; Benjamin Chi, MD, U AL	U AL	Completed 5/2007	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00204308?term=HIV+AND+Zambia&amp;rank=29">http://www.clinicaltrials.gov/ct2/show/NCT00204308?term=HIV+AND+Zambia&amp;rank=29</a>

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
Intermittent Preventive Treatment of Malaria in HIV-Seropositive Pregnant Women in Zambia	To evaluate the efficacy of the standard intermittent dosing regimen of antimalarial treatment in comparison to an intensive monthly treatment schedule among HIV-positive women	Center for International Health and Development	Davidson Hamer, Ctr for Int Health and Dvlpmnt, Boston U;	Center for International Health and Development.  Collaborator: CDC	Completed (estimated October 2004)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00270530?term=HIV+AND+Zambia&amp;rank=1">http://www.clinicaltrials.gov/ct2/show/NCT00270530?term=HIV+AND+Zambia&amp;rank=1</a>
Use of OraQuick for Screening HIV in Children Less than Eighteen Months Old	Observational study to determine the sensitivity, specificity, and acceptability of OraQuick, a rapid saliva HIV test, in children under 18 months	UNZA	Catherine Chunda, UNZA	Thrasher Research Fund  Collaborator CDC	Completed 9/2007	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00378118?term=HIV+AND+Zambia&amp;rank=20">http://www.clinicaltrials.gov/ct2/show/NCT00378118?term=HIV+AND+Zambia&amp;rank=20</a>
A Randomized Trial of IUD Versus Hormonal Contraception in HIV-infected Women in Zambia	“A randomized trial of the intrauterine contraceptive device (IUD) versus user's choice hormonal contraception (injectable progestins or oral contraceptive pills) among HIV-infected, recently post-partum women in Lusaka, Zambia”	U AL	Jeffrey Stringer, U AL	U AL  Collaborator: Elizabeth Glaser Pediatric AIDS Foundation; USAID	Completed (10/2005)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00336245?term=HIV+AND+Zambia&amp;rank=4">http://www.clinicaltrials.gov/ct2/show/NCT00336245?term=HIV+AND+Zambia&amp;rank=4</a>

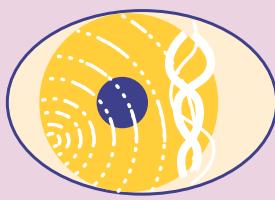
Study Name/ Treatment	Description	Research Institutions	Primary Investigator/ Contact	Sponsor/Funder	Study Status	Notes
Impact of HIV on Measles and Measles Immunisation	Longitudinal study assessing “the immunogenicity of standard-titer measles vaccine in HIV-infected and uninfected Zambia children.”	Johns Hopkins; LSHTM; UNZA	William Moss, Johns Hopkins; Felicity Cutts, LSHTM; Francis Kasolo, UNZA	Johns Hopkins Bloomberg SPH. Collaborators: Burroughs Wellcome; London School of Hygiene and Tropical Med; UNImZA.	Completed (estimated 9/2004)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00247091?term=HIV+AND+Zambia&amp;rank=9">http://www.clinicaltrials.gov/ct2/show/NCT00247091?term=HIV+AND+Zambia&amp;rank=9</a>
A Trial to Evaluate the Safety and Immunogenicity of tgAAC09, an HIV Vaccine Containing Clade C Gag-PR-ΔRT DNA in an Adeno-associated Virus (AAV) Capsid, Administered Twice, at Three Dosage Levels and Two Dosing Intervals (TGC 14F)	Phase 2 RCT to evaluate the safety, immunogenicity, and optimal timing of 2 injections a potential AIDS vaccine, tgAAC09	Zambia-Emory HIV Research Project (ZEHRP)	Elwyn Chomba, MD, ZEHRP	International AIDS Vaccine Initiative  Collaborator: Targeted Genetics Corporation	Completed 12/2007	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00888446?term=HIV+AND+Zambia&amp;rank=16">http://www.clinicaltrials.gov/ct2/show/NCT00888446?term=HIV+AND+Zambia&amp;rank=16</a>

<b>Study Name/ Treatment</b>	<b>Description</b>	<b>Research Institutions</b>	<b>Primary Investigator/ Contact</b>	<b>Sponsor/Funder</b>	<b>Study Status</b>	<b>Notes</b>
HIV Prevention Preparedness Study	Observational study “to provide researchers with information that will help them prepare for a future study to test the efficacy of two anti-HV vaginal gels.”	Harvard School of Public Health	Saidi Kapiga, MD, HSPH	NIAID  Collaborators NICHD NIMH NIDA	Completed (no date given)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00048282?term=HIV+AND+Zambia&amp;rank=22">http://www.clinicaltrials.gov/ct2/show/NCT00048282?term=HIV+AND+Zambia&amp;rank=22</a>
Comparative Evaluation of the Safety and the Efficacy of 2 Antimalarials Depending on HIV Status	Randomized efficacy study “to determine the safety and efficacy of sulfadoxine-pyrimethamine (SP) versus artemether-lumefantrine (Coartem) when administered to HIV+ and HIV- patients with uncomplicated P. falciparum malaria.”	TDRC	Umberto D'Alessandro, Institute of Tropical Medicine; <a href="http://www.clinicaltrials.gov/ct2/show/NCT00304980?term=HIV+AND+Zambia&amp;rank=13">http://www.clinicaltrials.gov/ct2/show/NCT00304980?term=HIV+AND+Zambia&amp;rank=13</a>	Institute of Tropical Medicine, Belgium	Terminated (estimated 4/2005)	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00304980?term=HIV+AND+Zambia&amp;rank=13">http://www.clinicaltrials.gov/ct2/show/NCT00304980?term=HIV+AND+Zambia&amp;rank=13</a>
Three Month Course of Anti-HIV Medications for People Recently Infected with HIV	The purpose of this study is to see whether it is better for people to take a short course of anti-HIV drugs when they are first infected or if it is better to wait until the HIV infection causes health problems before taking anti-HIV drugs.	U AL Satellite Clinic	J. Michael Kilby, MD, U AL	NIAID	Terminated	<a href="http://www.clinicaltrials.gov/ct2/show/NCT00087464?term=HIV+AND+Zambia&amp;rank=32">http://www.clinicaltrials.gov/ct2/show/NCT00087464?term=HIV+AND+Zambia&amp;rank=32</a>

Recently completed studies: MDP 301; HPTN 035; PAS I;

HIV/AIDS and Health systems reform project, main phase – 2005-2009: **Authors;** Dale Mudenda, Lutangu Ing'ombe, Chitalu Chama, Maxwell Mainza, Lillian Muchimba Sinyangwe and Gabriel Pollen

[http://www.unza.zm/Economics/index.php?option=com\\_content&task=view&id=28&Itemid=43](http://www.unza.zm/Economics/index.php?option=com_content&task=view&id=28&Itemid=43)



The European Group  
on Ethics in Science  
and New Technologies  
to the European Commission



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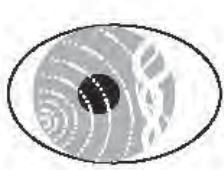
# Ethically speaking

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A newsletter providing information  
on the activities of the national ethics committees  
compiled by the Secretariat of the European Group  
on Ethics in Science and New Technologies  
to the European Commission



December 2008



**The European Group on Ethics in Science and New  
Technologies to the European Commission**

# **Ethically speaking**

**Issue No 11**



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# CONTENTS

## **Editorial**

Maurizio Salvi, Head of the EGE Secretariat .....	3
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## **Contributions from members of the EGE**

Francesco Busnelli and Eleonora Sirsi — ‘Technological innovation in agriculture and legal choices (from disparity to diversity)’ .....	9
---	---

## **EU national and regional ethics committees**

Belgium: the Belgian Advisory Committee on Bioethics .....	15
Cyprus: the Cyprus National Bioethics Committee .....	17
Denmark: the Danish Council of Ethics .....	21
France: the National Consultative Ethics Committee for Health and Life Sciences (CCNE) .....	23
Germany: the German Ethics Council.....	27
Greece: the Hellenic National Bioethics Commission .....	29
United Kingdom: the Nuffield Council on Bioethics .....	31

## **Non-EU national and regional ethics committees**

Argentina: the National Committee on Ethics in Science and Technology .....	35
Australia: the Australian Health Ethics Committee .....	39
Canada: the Institutes of Health Research (CIHR).....	43
Mexico: the National Commission of Bioethics.....	47
Philippines: the Philippine Health Research Ethics Board.....	51
Zambia: University of Zambia Biomedical Research Ethics Committee.....	55

## **International ethics committees**

The Council of Europe’s Bioethics Division.....	61
Unesco .....	63



# Editorial

*Maurizio Salvi*

## 1. Fundamental values in EU policy design

On 12 December 2007, the European Charter of Fundamental Rights was proclaimed by the Presidents of the European Commission, the European Parliament and the European Council. The European Charter establishes a set of European values, such as human dignity, freedom, democracy, protection of human rights, pluralism, non-discrimination, tolerance, justice, solidarity and gender equality. This key political agreement has added to the relevance of these fundamental values to EU policy design.

The relevance of European values in the eyes of EU citizens was also monitored in a recent public perception survey (spring standard Eurobarometer 693<sup>(1)</sup>), published in July 2008, which asked a series of questions concerning values. The aim was to explore if there was a base set of common values shared across the European Union and, if so, to identify them. The Eurobarometer survey showed that, when asked which values were most important to them personally, Europeans put peace (45 %), human rights (42 %) and respect for human life (41 %) first. These three were followed by democracy (27 %), rule of law (21 %), personal freedoms (21 %), equality (19 %) and tolerance (16 %). When asked which values represent the European Union best, the respondents chose human rights (37 %), peace (35 %) and democracy (34 %).

Leaving aside the related issue of the relevance of specific values in different regions of the EU and the link between western and EU values, these data show that the idea of Europe as a community of values is not ‘only’ a policy design of the EU but also a conception shared by the general public in Europe. The questions now are: ‘How can this value-oriented approach of EU policy design be transposed in specific sectors of science and technology?’ and ‘Is this a practical instrument for regulating various policy sectors better in the EU?’.

## 2. Embedding fundamental values and societal concerns in EU policy design: animal cloning for food supply

One recent example of how fundamental values and ethics have taken on specific relevance to EU policy design is the current interinstitutional discussion on animal cloning for food purposes.

In February 2007, after the US Food and Drug Administration (FDA) announced possible authorisation to place on the market food products derived from cloned cattle, pigs and goats,

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<sup>(1)</sup> [http://ec.europa.eu/public\\_opinion/index\\_en.htm](http://ec.europa.eu/public_opinion/index_en.htm)

Commission President Barroso asked the European Group on Ethics in Science and New Technologies (EGE) to draft an opinion on the ethical implications of cloning animals for food. In parallel, the Commission asked the European Food Safety Authority (EFSA) to provide a scientific opinion on food safety, animal health and welfare, and the environmental impact of animals derived from cloning and their offspring.

After several months of expert hearings, a public consultation on the Europa website (800 contributions received), a consultation with the forum of EU-27 national ethics councils and a round table with stakeholders from academia, industry, NGOs, civil society, international organisations and industry <sup>(2)</sup>, on 23 January 2008 the EGE delivered its opinion on the ethical aspects of animal cloning for food supply <sup>(3)</sup> to President Barroso. In its opinion, the group stated that animal welfare and health are affected by animal cloning for food supply, in particular surrogate dams and the first generation of clones. The group expressed doubts about whether the current situation as regards the welfare and health of animal clones is ethically justified by the existing arguments in support of cloning for food and advocated that, in the absence of proper data, this consideration cannot be extended to clones' offspring. Under these conditions, the EGE did not see good enough reasons to endorse production of food from clones and their offspring at present. On the other hand, the group did not see any categorical reason to propose a ban. The EGE also asked the Commission, amongst other things, to launch a thematic Eurobarometer survey on animal cloning for food supply and to promote public discussion on this specific use of animal biotechnology.

On 24 July 2008, the EFSA's parallel final opinion was released. The EFSA acknowledged uncertainties in risk assessment because of the limited evidence base and concluded that, in relation to food safety, there is no indication that differences exist between meat and milk from clones and their progeny and from conventionally bred animals. The EFSA opinion recognises that there are significant animal health and welfare issues that can be more frequent and severe for clones than for conventionally bred animals.

In response to the EGE's request, in July 2008 the Commission launched a Eurobarometer survey on EU consumers' attitudes to cloning for food production. The results were published in October 2008 <sup>(4)</sup>. They found that EU citizens were not willing to accept animal cloning for food production purposes: the majority of respondents (58 %) said that such cloning should never be justified. The main reasons for rejection of cloning by the vast majority of EU citizens were: the long-term effects of animal cloning on nature are unknown (84 %); animal cloning is morally wrong (61 %); and animal cloning might decrease genetic diversity within livestock populations (63 %). According to the Eurobarometer survey, 84 % of EU citizens said that their greatest concern was that not enough is known about the potential long-term health and safety effects of using cloned animals for food and three quarters agreed that there could be ethical grounds for rejecting animal cloning. Almost 4 out of every 10 respondents (38 %) answered that none of the potential benefits suggested to them (health or economic) would justify breeding cloned animals for food production. On the other hand, around 60 % answered that cloning would be acceptable for specific purposes (e.g. preservation of rare species or breeds).

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<sup>(2)</sup> [http://ec.europa.eu/european\\_group\\_ethics/activities/index\\_en.htm](http://ec.europa.eu/european_group_ethics/activities/index_en.htm)

<sup>(3)</sup> [http://ec.europa.eu/european\\_group\\_ethics/activities/docs/opinion23\\_en.pdf](http://ec.europa.eu/european_group_ethics/activities/docs/opinion23_en.pdf)

<sup>(4)</sup> [http://ec.europa.eu/public\\_opinion/flash/fl\\_238\\_en.pdf](http://ec.europa.eu/public_opinion/flash/fl_238_en.pdf)

Following publication of the EGE and EFSA opinions, in February 2008 the Chairman of the European Parliament's Agriculture Committee, supported by several members of the European Parliament's Intergroup on Animal Welfare, tabled a motion for a resolution calling on the European Commission to ban all food from cloned animals in the European Union, along with imports of food derived from cloned animals and their offspring. This motion was adopted in September 2008, with 622 votes in favour, 32 against and 25 abstentions.

The Council's and the Commission's positions concerning legislation covering cloning are now expected by the end of 2008.

### **3. Conclusion**

This example shows that fundamental values, such as protection of human health, animal welfare, consumers' freedom of choice or respect of biodiversity, all factors inextricably linked to ethical assessment of science and technology, have acquired a central role in discussions on sensitive policy issues like animal cloning for food purposes. These values per se certainly do not provide unequivocal responses to such a complex issue as animal cloning for food and global trade in food products, but certainly contribute to responsible positioning of the EU as a political body and as a complex multicultural democracy. Fundamental values, ethics and societal considerations may therefore be conducive to better policy design in the EU. Adoption of the Charter of Fundamental Rights and of the Lisbon Treaty (if the ratification process is successful) will also provide additional tools for promoting the responsible use of science and technology in the EU and beyond.

#### **Further information**

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# **Contributions from members of the EGE**



# Technological innovation in agriculture and legal choices (from disparity to diversity)

*Francesco Busnelli and Eleonora Sirsi*

A short account of the main phenomena occurring in this age and of the traits displayed by this primary activity, as it moves from pre-industrial to post-industrial agriculture, could make a useful contribution to the legal debate on technological innovation in agriculture; this should help shed light on what interests are to be protected and, therefore, help find the ‘keyword’ that now defines the ‘European model of agriculture’ and which, from the perspective of the Lisbon strategy and respecting the principles laid down by the Treaty, might boost the competitiveness of agriculture and reconcile all the interests involved in it.

## **The scenario: the position of the primary activity within the agro-industrial system and globalisation**

The most significant contextual elements for any description of the current state of farming are the development of the agro-industrial and agri-food systems and globalisation. Both of these and the mutual relationship between them have had various impacts, both internal and external, on farming, which have given birth to a new need for protection and to unprecedented conflicts of interest.

The changes that have occurred in food production (and in the conception of food itself) have led to agriculture playing the role of supplier of raw materials to the processing industry and distribution sector, that directly fulfil consumers’ needs in a society which has dramatically changed, both in lifestyle and in consumption patterns. The expansion and gradual deregulation of the markets have resulted in relaxation of protectionist policies and have had a deep impact on the ways rules are produced and on the institutional sphere. They have also created friction between worldwide rules and local needs, especially in agriculture, which — despite the standardisation dictated by industrialisation — is renowned for its highly diverse terrains and environments and for the multiple ways of managing agriculture.

The global development of the industrial system is to blame for the prevalence of large-scale monocultures, the reduction in agricultural biodiversity and traditional knowledge, and the significant impact on the environment and the landscape.

## **Governance of innovation in agriculture or the importance of a public policy to protect interests**

Agriculture is dramatically different from other production industries: its dependence on the biological cycle of plants and animals, the deep influence of weather conditions, the perishability

of the produce and the often decisive strong role of the environment and terrain can only partly be solved by technological innovation. The established social role of agriculture has also undergone substantial changes; from its original role, as provider of means of subsistence, agriculture has progressively taken on additional tasks, including the meaning it has always had for the community, as the repository of traditions and skills in an urbanised society. These specific traits and roles have led to the establishment of a public policy and specific rules to protect diverse, not always reconcilable, interests: the interest of farmers in autonomy in their own activity and in legal recognition of that activity's specific nature; the interest of consumers in safe food, adequate information and right of choice; and, finally, the interest of European citizens in adequate food production, in preservation of the environment and biodiversity, in access to information about technology and in participation in policy decisions.

Technological innovation in agriculture is at present becoming instrumental in the race for competitiveness that focused first on process innovation by means of product standardisation and low prices, then on product innovation and quality. The Lisbon strategy acknowledged the role played by information and communication technology (ICT), which is an opportunity for the agricultural world, in that it can be used to exchange knowledge and build a better relationship with the market.

Depending on how it is accomplished, technological innovation in agriculture is typically exogenous and formal and relies on external knowledge and resources, whereas endogenous and informal forms of innovation have been neglected.

Technological innovation is now also the focus of many governance choices in many respects and in order to protect various interests. The most significant questions which politics and law are called on to answer are: promotion and fair allocation of the benefits (of innovation); guaranteed process and product safety; and how to take decisions about the technology to be introduced to respond to a need for transparent, democratic choices.

Regarding the first point, the reform of the common agricultural policy (CAP), separating subsidies from production and increasing the resources allocated to rural development policies, was designed to bring farmers closer to the market, thus boosting product and process innovation. On the other hand, innovative processes in agriculture are different from those in other industries, because in agriculture innovations cannot be protected easily, which makes it hard to reap the benefits, and because experimental activities in biology are uncertain due to the complexity. For this reason, public action — in the form of funds and technical assistance — could be appropriate, if not essential, to make up for the lack of private investment.

Turning to legal protection of plant variety innovation, in addition to plant patents, there is a need to pursue protection of traditional knowledge (informal innovation) which, in the words of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA), constitutes one of the ‘farmers’ rights’ that makes it possible to make ‘sustainable use of agricultural genetic resources’ with a view to protecting agricultural biodiversity and for the benefit of future generations. In this connection, experience with participation breeding and tools similar to ‘creative common licences’ might become a benchmark for experimenting with new forms of innovation, albeit in restricted contexts.

Regarding the second aspect — that is, process and product safety — the legal technique of *ex ante* examination is making its entry into the world of agriculture, with the appearance of

environmental and food safety issues, and a large proportion of the EU legislation in this area is now warranted by the need to control technological innovation in the light of the hazards it involves and of the interests that are to be protected. In particular, a large number of measures have been taken that, by affecting the food industry or addressing food safety issues, concern agriculture which is the foremost contributor to food production, taking a consistent, integrated approach, as laid down by Regulation (EC) No 178/2002.

The risk analysis method (assessment/management/communication) required by such legislation, which outlines the principles of food legislation in order to protect consumers' right to safety and information and to guarantee free movement of food in the internal market, is the latest response to the need for safety. Nevertheless, it may turn out to be inadequate for the agricultural industry. Each component — assessment, management and communication — and all three together should be given a consistent meaning in connection with the new idea of 'rational development' that has dawned in the wake of Article 33 of the Treaty. The possibility that it could be made to coincide merely with increased production, lower costs and higher profits would certainly turn out to be an anti-historical interpretation, but it would also be inadequate to close the assessment and management process in the rule/exception relation set out by Articles 28 and 30 of the Treaty, under which the Member States can play a part in protecting the fundamental interests of their own citizens. In the case of agriculture, dwelling on the traditional juxtaposition between protection of free trade in goods and protection of non-commercial interests, such as health, the environment and information, does not seem to be enough, because this would fail to take into account the specific weaknesses of agriculture (biological and climatic hazards), its economic situation and varied business reality, along with the multiple roles that this activity plays and that have been acknowledged by the rural development policy and by adoption of the idea of multifunctional agriculture.

In addition, the concern for food safety, as highlighted by the best European doctrine (Jannarelli), would blur the systematic removal of economic protection of a class of farmers whose protection would vie with consumer protection.

The third aspect concerns the levels and ways to take decisions on technology. The levels are related to a tendency to renationalise policies: the coexistence of transgenic and non-transgenic crops has shown that European countries have different sensitivities to technology applied to agriculture and has proved that there are several approaches to European agriculture. Turning to the ways, as has been shown by the debates on the most controversial technologies such as nuclear energy and transgenic technology, the need to involve citizens in technological choices is related, as everyone knows, to the awareness that science is not neutral and that the choices concerning it have political value and to the increasingly obvious connection between technology and economic power.

## **Final considerations**

The debates on GMOs might make a significant contribution to this issue, as they seem paradigmatic of the approaches to be taken into consideration. Development and application of GMO technology raised, among others, the problems of protecting farmers against the seed industry, of consumers' rights to safety and of protection of information.

The debate on coexistence, or rather the issue of various technologies in agriculture, is particularly significant, both because of the classic disagreement on the decision level in the EU and because coexistence raises once again a topic inherent in agriculture, from the first treaty to enlargement today: a topic which implies food quality policy linked to terrains and rural development policy, that is, diversity in agriculture as opposed to market homogeneity.

One example is the tendency, also seen within the European institutions, to draw a distinction between marketing of products and growing of crops. Significantly, although unusually, the latest decision taken in this sphere by the European Commission (Decision 2008/495/EC), in which it adopted a position on maintaining the ban on selling and growing MON 810 maize which had been imposed under the safeguard clause, seems to have accepted the idea of separating the selling of products from the growing of transgenic crops, thereby somehow acknowledging the requests made for some time by some European countries for independence when taking decisions that affect their land and agriculture. Whether this decision may represent a different way of understanding ‘coexistence’ (i.e. the Community as one single agricultural space in which different ways of doing agriculture may find their place) remains to be seen. The idea that ‘diversity’ may become a trait of the ‘European model’, the point of arrival for a European policy for agriculture that was originally characterised by ‘disparity’, is a proposition that politics might well be advised to consider.

### **Further information**

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# **EU national and regional ethics committees**



# The Belgian Advisory Committee on Bioethics

## **Belgium**

The Belgian Advisory Committee on Bioethics is organising a study day for the general public in Brussels on Wednesday 25 March 2009.

This study day will be devoted to the increasingly sensitive problem of ‘the computerisation of medical data’.

After a morning of talks by four national and international experts and exchanges between these experts and the public, four sub-topics will be presented and discussed in the afternoon by students concerned by this issue (students in the medical, legal, IT, sociology and political science sectors).

For registration and information, see: [www.health.fgov.be/bioeth](http://www.health.fgov.be/bioeth)

The two latest opinions by the Belgian Advisory Committee on Bioethics are:

- Opinion No 43 of 10 December 2007 concerning the problem of whether or not human body parts should be commercialised;
- Opinion No 44 of 23 June 2008 concerning the inhibition of growth of very severely mentally handicapped children.

These opinions are available on the Internet site in both French and Dutch.

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# The Cyprus National Bioethics Committee

## Cyprus

### The Committee

The Cyprus National Bioethics Committee (CNBC) was established in 2001 by Law No 150(I)/2001. Its mandate is to constantly monitor, survey, systematically analyse and evaluate issues and problems associated with scientific research, advances in and applications of biotechnology, biology, medicine, genetics and pharmaceutics, along with human intervention in biological processes and the human genotype, and to investigate their moral, deontological, social, humanistic and legal dimensions.

The CNBC is an independent body, not subject to administrative supervision by any ministry, agency, department or service and has the powers conferred on it by the current law and any future legislation.

The CNBC has 13 members, including the chairperson. The members represent different professions and disciplines and are appointed by the Council of Ministers of the Republic of Cyprus for a four-year term. The law stipulates that at least four members must come from the humanities and social sciences, four from medical and biological sciences, and four members must be from any other science or profession or be distinguished for their contribution in any area of activity.

The CNBC adopted, with very few changes, the World Health Organisation's 'Operational guidelines for ethics committees that review biomedical research' as the basis of the guidelines for ethics committees reviewing biomedical research involving human subjects in Cyprus, which were enacted on 31 March 2005 (Κ.Δ.Π. 175/2005).

In accordance with these operational guidelines and with the authority conferred on it by Law No 150(I)/2001, the Committee set up three bioethics review committees to review protocols relating to:

- biomedical research on human beings and their biological substances;
- clinical trials on medicinal products for human use;
- medical devices applied to human beings.

The role of the bioethics review committees is to:

- contribute to safeguarding the dignity, rights, safety and well-being of all actual or potential research participants;
- provide independent, competent and timely review of the ethical aspects of proposed studies;

- review research proposals before the research begins.

The CNBC monitors, directs, coordinates and reviews the work performed by the bioethics review committees, whose members are appointed for a period of two years.

## **Recent opinions**

- **Genetically modified organisms**

The ethical implications of adopting GMOs were considered by the CNBC in an opinion issued on 3 April 2008.

This examines the potential (beneficial and harmful) effects of GMOs on consumer health, the environment and society.

The main conclusions drawn by the CNBC in this opinion are as follows.

- (i) Continuous safety/risk assessment is needed, as GMOs are directly linked to technology which is continuously evolving. This assessment could potentially minimise the risks of new harmful effects on consumer health, the environment and farmers.
- (ii) Ethical considerations demand that new applications of GMO technology must be introduced gradually and cautiously.
- (iii) It is very important for the public to be informed about GMOs in a timely and accurate manner.
- (iv) Consumers' right of freedom of choice has to be respected and safeguarded.

- **Palliative care**

Drawing on the knowledge obtained from the conference held on 12 January 2008, the CNBC issued an opinion on the subject of palliative care on 1 July 2008.

This opinion concentrates on the patient's medical, financial, social and psychological needs and religious beliefs.

The CNBC believes that the higher the level of palliative care available to terminally ill and dying patients, the better the quality of their lives and, thus, the less any wish to terminate their lives.

## **Current work and forthcoming opinions**

- Biobanks

## **Previous opinions**

- Opinion on predictive health information in the conclusion of health and life insurance contracts
- Opinion on prenuptial testing for thalassaemia before a civil wedding
- Opinion on human organ donor registries

- Opinion on transplantation of biological substances of human origin
- Opinion on PGD and sex selection of in-vitro procreated embryos
- Opinion on use of pre-implantation genetic diagnosis (PGD)
- Opinion on cord blood banking
- Opinion on medically assisted human procreation

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# The Danish Council of Ethics

## Denmark

### Involving young people in the ethical debate

*Ulla Hybel, LLM, PhD, project leader with the Secretariat of the Danish Council of Ethics*

The rapid progress in biotechnology has, in particular, led to an increasing need to address ethical dilemmas. The bioethical debate has been well integrated into Danish society. But the next generation must be especially prepared to participate in public debates on ethical dilemmas.

The Danish Council of Ethics is taking various approaches to introduce young people to the bioethical debate — and to engage them to participate in it, by meeting young people eye to eye.

One approach the Danish Council has been working with in recent years, focusing on young people, is website-based information about new biotechnologies. For material targeted at 12- to 14-year olds, click on [www.etikoglivet.dk](http://www.etikoglivet.dk) (in Danish) and for material aimed at 15- to 19-year olds, click on [www.etikoglivetsbyggeklodser.dk](http://www.etikoglivetsbyggeklodser.dk) (in Danish). In 2001, the Council of Ethics launched the Ethical Forum for Young People, an event which has taken place every second year with great success.

### The Ethical Forum for Young People

The forum is a teaching and democracy project organised by the Danish Council of Ethics. The aim is to improve young people's knowledge and awareness of bioethical topics and to coach them in the art of discussing fundamental values in a democratic manner. The Ethical Forum for Young People therefore has both an educational and a democratic purpose. It consists of three main components, as follows.

- **Teaching material — addressing ethical dilemmas**

The first component is a free booklet for teaching the final year of lower secondary school. The booklet (teaching material) prepared by the Council of Ethics contains factual information about a specific bioethical topic plus imaginative case-studies and suggestions for exercises and essays.

As mentioned above, the Ethical Forum takes place every second year, with a new topic each time. In 2001, the topic was cloning of human beings. In 2003, the forum discussed the biotechnological transformation of people. In 2005, the theme was stem cells and ethics; in 2007, euthanasia.

The next forum, in early 2009, will focus on ethical problems raised by physical interventions which serve no medical purpose.

The booklet, entitled ‘Branded for life’ (*Mærker for livet*), will focus on three types of physical intervention: tattooing, piercing and circumcision of boys.

A key question is who should decide: should it be up to the youngsters themselves or should society take care of young people’s health? And how much control should parents exercise over their children’s marks for life?

Chapter 1 of the booklet contains a portrait interview of a young girl, who has several piercings. Chapter 2 reports on a circumcision of a newborn boy for religious reasons. Chapter 3 gives fictitious examples, which highlight the ethical dilemmas.

Each case is accompanied by related tasks. At the back of the booklet there is a mini-glossary of definitions of concepts that are central to the discussion of physical intervention: integrity, self-determination, parental responsibility and parental authority.

- **Ethical Forum for Young People — wrestling with arguments**

The booklet can be ordered from the website of the Danish Council of Ethics and the material will be sent to the teacher. Once classes have worked through the material, they are encouraged to nominate one classmate to participate in the Ethical Forum for Young People. From the nominees, the Council of Ethics will select 17 pupils, to match the number of members on the Council. These 17 young people will meet for two days to discuss the ethical questions connected with the theme. Members of the Council of Ethics will act as moderators of the discussions.

- **Statement from the Ethical Forum for Young People — shaping public opinion**

The young people will close their two-day meeting with a declaration about the theme in question. This declaration will then be printed and sent to all schools, to the Danish Parliament and to the media. It can also be read on the Council of Ethics website.

The material has been well received and is a success. The booklet has been ordered by about 40 % of classes in the target groups. In 2009, the material will be published in cooperation with the National Council for Children, which is a State body working for children’s rights to protection, influence and care.

The Danish Parliament has taken action on the ethical and legal issues surrounding piercing of children and young people after the debate raised by the two Councils.

### **Further information**

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 Website: [www.etiskraad.dk](http://www.etiskraad.dk)

# The National Consultative Ethics Committee for Health and Life Sciences

## France

### **Legal basis and mandate**

The National Consultative Ethics Committee for Health and Life Sciences (CCNE) was established by presidential decree on 23 February 1983 as an independent authority linked to the ministries of research and health. Set up according to the law of 29 July 1994, the CCNE now operates within the framework of the law of 6 August 2004.

### **Taking an ethical view of health and life sciences**

The CCNE's mission is to 'provide opinions on the ethical problems and societal questions raised by progress in the fields of biology, medicine and health, and to publish recommendations on these issues' <sup>(5)</sup>.

### **The CCNE at work**

Decree No 2005-390 of 28 April 2005 established the Committee's composition, organisation and operation, and specified how it can be tasked.

A purely consultative body, the CCNE receives requests submitted by presidents of parliamentary assemblies, government representatives, higher learning establishments, public institutions and officially recognised foundations working in research, technological development or the promotion and protection of health. The Committee may also address various issues raised by people other than those listed above.

The CCNE's highest decision-making authority is the plenary committee, composed of all its members.

Cases are investigated by the technical section, which includes 12 members chosen by the Committee on the basis of nominations by the CCNE president. Each issue is handled by a working group made up of Committee members, who may request help from outside experts in order to shed new light on a subject. The technical section then examines the case and presents it to the plenary committee. Meetings of the plenary committee and the technical session are closed to the public. After the case is examined, a final report is published, including recommendations or opinions.

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<sup>(5)</sup> Article 1412 of Law No 2004-800 of 6 August 2004.

Law No 2004-800 of 6 August 2004 lays down the Committee's composition:

- The CCNE president and two honorary presidents are designated by the President of the French Republic.
- Five key figures from the main philosophies and religious faiths are appointed by the President of the French Republic.
- Nineteen members are chosen for their expertise and interest in ethical issues: 15 of them are designated by various ministers concerned with biology and health issues, the remaining four are named respectively by the presidents of France's two parliamentary houses, the vice-president of the Conseil d'État (France's highest administrative court) and the president of the Cour de Cassation (supreme court of appeal).
- Fifteen representatives from the research sector are designated by their peers.

## **Composition of the Committee**

President: Alain Grimfeld

Vice-President: Pierre Le Coz

Honorary Presidents: Didier Sicard, Jean-Pierre Changeux

Members:

Olivier Abel, Annick Alpérovitch, Jean-Claude Ameisen, Ali Benmakhlof, Marie-Germaine Bousser, Claude Burlet, André Comte-Sponville, Alain Cordier, Pascale Cossart, Bernard Debré, Chantal Deschamps, Anne-Marie Dickele, Frédérique Dreifuss-Netter, Georges Fauré, Alain Fischer, Patrick Gaudray, Françoise Héritier, Marie-Thérèse Hermange, Pierre Joliot, Bernard Kanovitch, Haïm Korsia, Blandine Kriegel, Xavier Lacroix, Chantal Lebatard, Claire Legras, Pierre Le Neindre, Martine Loizeau, Jacqueline Mandelbaum, Lucien Neuwirth, Roger Pol Droit, Christian de Rouffignac, Philippe Rouvillois, Michel Roux, Maxime Séligmann, Alain-Gérard Slama, Dominique Stoppa-Lyonnet, Claude Sureau, Philippe Waquet.

## **The National Consultative Ethics Committee on the international scene**

The seventh Global Summit of National Bioethics Advisory Bodies took place in Paris on 1 and 2 September 2008. The CCNE was responsible for the local organisation of this meeting which brought together 52 delegates and observers from 35 countries: Armenia, Australia, Austria, Azerbaijan, Belgium, Benin, Burkina Faso, Canada, China, Croatia, Cyprus, Denmark, Ecuador, Estonia, Finland, France, Gabon, Germany, Greece, Iceland, Japan, Luxembourg, Morocco, Mexico, the Netherlands, Portugal, Russia, Senegal, Singapore, Sweden, Switzerland, Tunisia, Ukraine, the United Kingdom and the United States.

The 10th European Conference of National Ethics Committees (Cometh), held in Paris on 27 and 28 November 2008, was organised by the CCNE in partnership with the Council of Europe and the European Commission.

## **Current work**

- Re-examination of the laws on bioethics (29 July 1994 and 6 August 2004)

## Recent publications

- Opinion No 103: Ethics and childhood deafness: consideration of information regarding systematic neonatal screening and the medical management of deaf children
- Opinion No 104: The ‘personal medical record’ and computerisation of health-related data

## Further information

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# The German Ethics Council

## **Germany**

### **The German Ethics Council starts its work**

The German Ethics Council was inaugurated on 11 April 2008. Under the direction of Professor Norbert Lammert, President of the German Bundestag, Professor Edzard Schmidt-Jortzig, University of Kiel, was elected chairman. Dr Christiane Woopen, lecturer at the University of Cologne, and Professor Eberhard Schockenhoff, University of Freiburg, are deputy chairs.

The German Ethics Council is continuing the work of the National Ethics Council, which met for the last time on 11 September 2007. Under the Ethics Council Act of 16 July 2007, the German Ethics Council is responsible for monitoring questions relating to ethics, society, science, medicine and law and the probable consequences for the individual and society stemming from research and development, in particular application of life sciences to humanity.

Its duties include but are not limited to:

- informing the public and encouraging discussion in society, engaging the various social groups;
- preparing opinions and recommendations for political and legislative action;
- cooperating with national ethics councils and comparable institutions of other States and international organisations.

Every year, the German Ethics Council will hold at least one public event on questions concerning ethics, in particular in the field of life sciences. In addition, it may hold further public events, hearings and public sessions.

The German Ethics Council will draft opinions as it sees fit. The Bundestag or the federal government can also request statements on specific issues from the German Ethics Council. At the end of each calendar year, the German Ethics Council will report in writing to the Bundestag and the federal government on its activities and the current state of the social debate.

The German Ethics Council works independently and is bound only by the mandate given to it by the Ethics Council Act. Its members are required to exercise their office in person and independently. The deliberations of the German Ethics Council are usually public, but it may also meet in closed session and publish the results.

The German Ethics Council is made up of 26 members, specialising in scientific, medical, theological, ethical, social, economic and legal matters. Its members include academics from these disciplines, along with persons of repute who are particularly familiar with ethical questions raised by life sciences. The German Ethics Council brings together representatives

of a variety of ethical approaches and a pluralist spectrum of opinion. The members of the German Ethics Council are appointed by the President of the Bundestag, half on a proposal from the Bundestag and half on a proposal from the federal government. They serve for a four-year term, after which they may be reappointed once. The Council members may not belong to a legislative body of the federal republic or of a *Land* nor to the federal government or a *Land* government.

The costs of the German Ethics Council and its administrative office are borne by the federation.

At its meeting on 29 May 2008, the German Ethics Council discussed its work programme. The first topics to be looked at by the Council will be:

- anonymous birth/baby boxes;
- research on genetic chimeras;
- public health nutrition;
- nursing services for old and disabled persons;
- resource allocation in public health;
- cosmetic surgery on minors;
- practice of assisted reproduction in Germany;
- pharmacogenomics;
- neurosciences/neuroethics;
- prohibition of commercial/organised assisted suicide in Germany.

The theme for the first public event in 2009 will be neurosciences.

### **Further information**

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# The Hellenic National Bioethics Commission

## Greece

Current leadership: Professor George Maniatis is acting Chairman.

### Most recently issued opinion

This was the opinion on research ethics in biological sciences in June 2008. In this opinion, the Bioethics Commission visited a subject widely debated by scientists and by the general public alike. Several cases of misconduct in science have been uncovered in the recent past. One of the root causes of the problem seems to be the way science is organised and conducted in large institutions and the dependence of research on external sponsors. In biological sciences in particular, improper conduct is more likely to produce an adverse impact on society, public health and the environment. In this opinion, the Bioethics Commission analyses the issues raised by ethics in biological sciences, recognising the need for freedom of research but also that society supports science and expects to benefit from it. Freedom of research should be protected but, at the same time, research should be self-regulated by ethics codes produced by the scientific community. To this end, the Bioethics Commission took on the task of providing research institutions with guidelines for formulating their own ethics codes.

The English translation of the opinion is expected to be completed in October 2008.

The full text (in PDF format) of all opinions and reports issued by the Bioethics Commission, in English, can be found at: [http://www.bioethics.gr/category.php?category\\_id=55](http://www.bioethics.gr/category.php?category_id=55) or requested from the secretariat at: [secretariat@bioethics.gr](mailto:secretariat@bioethics.gr)

### Current work

To follow up the opinion on research ethics in biological sciences, the Bioethics Commission has just completed guidelines for the production of ethics codes by individual research institutions. It is currently discussing the issue of environmental ethics. An opinion on this subject is expected to be published in January 2009.

### Seminars

The Bioethics Commission organised two seminars on ‘research ethics in FP7’ for researchers, one in February 2008 in Thessaloniki, the other in April 2008 in Athens. The seminars aimed at informing the scientific community about research in the EU and about the Greek regulations regarding research ethics, and at assisting with submission of research proposals under the seventh framework programme (FP7). Beyond that, the discussions during these meetings gave

the Bioethics Commission an opportunity to add to its understanding of the problems faced by the research community and to exchange views with the participants on various research ethics issues.

## **Presentations**

Members of the Bioethics Commission and the two senior scientists regularly participate in meetings and workshops held in Athens and other cities in Greece, as speakers or experts, when bioethical issues are discussed.

They also participated in the following international meetings between April and September 2008.

Date	Conference/meeting	Title	Participant
16 June 2008	EGE round table debate, Brussels	Opinion on ‘Ethical aspects of modern developments in agriculture technologies’	Dr Ariadne Hager-Theodorides, senior scientist of the Bioethics Commission
19–21 June 2008	ESF exploratory workshop, European Science Foundation, University of Zurich	‘Advanced directives: towards a coordinated European perspective?’	Dr Takis Vidalis, senior scientist of the Bioethics Commission
1 and 2 September 2008	Seventh Global Summit of National Ethics Committees, Paris	<ul style="list-style-type: none"> <li>• Respect for the person</li> <li>• Personal autonomy</li> <li>• Ethics committees and public debate</li> </ul>	Professor George Maniatis, acting Chairman

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# The Nuffield Council on Bioethics

## **United Kingdom**

### **Introduction**

The Nuffield Council on Bioethics was established by the Nuffield Foundation in 1991 to identify, examine and report on the ethical questions raised by recent advances in biological and medical research. Since 1994, it has been funded jointly by the Nuffield Foundation, the Medical Research Council and the Wellcome Trust. The Council's role is to respond to public concern about aspects of biomedicine and biotechnology, to provide independent advice to policymakers and to stimulate debate in bioethics.

### **New working party on personalised healthcare**

The Council has set up a new working party which will consider the ethical issues raised by new technologies that are making diagnostic and therapeutic healthcare services increasingly personalised. Such technologies include whole body scans, mapping the genome of individual patients, and 'telehealthcare' — the delivery of healthcare services over a distance.

The working party is chaired by Christopher Hood, Professor of Government at the University of Oxford and Director of the Economic and Social Research Council's public services research programme. The working party includes members with expertise in medicine, science, law, philosophy and sociology. The group will hold evidence-gathering sessions and a public consultation in spring 2009 to draw together wider views on the issues raised. A report with recommendations for policy and practice will be published in early 2010.

### **Consultation on dementia**

The Council had a good response to its consultation on the ethical issues raised by dementia, with 200 people and organisations sending in evidence and views on the consultation questions. Respondents considered issues such as whether people with dementia should ever be restrained and how decisions about treatment and care should be made. In addition, 50 members of the public deliberated the issues at a workshop hosted by the Council in Birmingham in August. Drawing together the outcomes of the consultation process, the working party is now beginning to formulate recommendations for policy and practice. A report setting out the group's findings will be published in autumn 2009.

## Consultation responses

The Council has recently submitted the following responses to the consultations of other organisations:

- the World Medical Association's consultation on the Declaration of Helsinki;
- the European Group on Ethics in Science and New Technologies' round table on ethical aspects of modern developments in agricultural technologies;
- the Department of Health's consultation on the future of tobacco control;
- the Scottish government's consultation on alcohol misuse;
- the Royal Society's call for evidence on biological approaches to enhance food-crop production.

All Council policy responses can be downloaded at: [www.nuffieldbioethics.org/go/aboutus/externalactivitiespage\\_192.html](http://www.nuffieldbioethics.org/go/aboutus/externalactivitiespage_192.html)

### Further information

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# **Non-EU national and regional ethics committees**

# The National Committee on Ethics in Science and Technology of Argentina

## **Legal basis**

The National Committee on Ethics in Science and Technology of Argentina (CECTE) was established by the Ministry of Education in 2001 and is currently under the recently founded Ministry of Science, Technology and Productive Innovation (MinCyT).

The members of the Committee are appointed by the MinCyT after consultations with scientific societies and are selected on the basis of their high academic and personal qualifications in different areas of natural, exact and social sciences, humanities and law.

## **Introduction**

Argentina has a very active, if relatively small, scientific community that has produced three Nobel Prize winners. In the second half of the 20th century, the country suffered from a continuous drain of young researchers, triggered by political crises, military intervention and chronic economic difficulties. Nevertheless, Argentine research has managed to maintain high standards in some areas and close ties with international science. This aspect is gaining strength fast, as the scientific situation has changed for the better in recent years.

In this context, CECTE has evolved into an independent multidisciplinary body that studies controversial issues related to research ethics and the ethical implications of policies and regulations involving all areas of scientific research and new technologies. It identifies ethical questions raised by advances in science and technology and addresses topics connected with scientific responsibility for broader social concerns.

## **How CECTE works**

CECTE drafts recommendations and reports based on critical transdisciplinary analysis of the best available evidence and in the light of relevant ethical principles. For each case, the Committee appoints experts from different disciplines to produce discussion papers on the state of the art of the issues under study.

The Committee has been promoting cooperation with Brazil on research ethics and, since 2006, has organised four bilateral conferences in Argentina and participated in one organised by Brazil on questions of mutual interest.

Since 2002, it has received requests for studies and recommendations from different government bodies, from public and private institutions and from individuals.

The Committee signed an agreement with the Science and Technology Commission of the Argentine Parliament to study and draft non-binding recommendations on bills involving controversial ethical issues relating to science, technology and their impact on society and the environment. Accordingly, CECTE analysed bills on biosafety of GMOs in agriculture (2002), promotion of biotechnological industries (2003), assisted reproduction techniques (2003) and confidentiality of genetic data. On this last subject, CECTE also produced a report on the ethical and legal issues raised by the Unesco resolution on genetic privacy and non-discrimination for the National Institute against Racism, Discrimination and Xenophobia and other government agencies.

The Committee has produced studies and recommendations for the Ministry of Foreign Affairs. In particular, CECTE produced two reports, one on human cloning (2004), the other on codes of conduct for scientists and institutions in the context of the convention on the prohibition of the development, production and stockpiling of bacteriological (biological) and toxin weapons and on their destruction (2005), plus reports on statements and declarations proposed by international organisations such as Unesco.

At the request of the former Secretary of Science, Technology and Productive Innovation, CECTE drafted several reports, including one on research conducted in national public scientific institutions when financing by foreign armed forces' institutions is involved (2005).

CECTE made recommendations about integrity in scientific community relations (2003) and partnership of scientific and technological institutions and other organisations for granting awards (2004).

## **Research integrity**

In 2005, the Committee began to work on cases relating to research integrity and misconduct, in response to allegations of plagiarism made by individual researchers and a request from the national funding agency to study ways of avoiding conflicts of interest. In this regard, the Committee recommended regulatory and organisational changes in the institutions concerned to prevent future cases and create the right conditions for investigating allegations of misconduct in research.

In 2009, CECTE will be organising a Latin American research integrity network.

## **Latest work**

CECTE has analysed the expansion of the breadth, scope and term of intellectual property law over the last 30 years and the ethical and legal concerns which this raises about access to the benefits of science and technology. This process affects the necessary balance between private and public interests in areas crucial for cultural, economic and social development and has serious implications for the healthcare of vulnerable sectors in developing countries. After a two-year study and two workshops, CECTE approved the final report containing recommendations supporting access to scientific knowledge in the public domain (2008).

CECTE is drafting recommendations on the ethics of research involving animals, including guidelines and regulations on production and care of animals. It has commissioned a discussion

paper on existing international regulations on the use and care of animals for scientific research. It organised two small meetings and sponsored participation by Argentine experts in a conference held in Campinas (Brazil) to discuss the new Brazilian act on the use and care of animals for research, adopted in September 2008.

CECTE organised a conference on the code of conduct for responsible nanoscience and nanotechnology (N & N) research approved by the European Commission in February 2008. The conference was inaugurated by the Minister for Science and Technology and co-organised by the Argentine Foundation for Nanotechnology, the Argentine-Brazilian Centre of N & N, the Argentine-Brazilian programme of ethics in science and technology and the International Relations Division of the Ministry of Science and Technology. Pēteris Zilgalvis, Head of the Ethics and Governance Unit of the European Commission's Directorate-General for Research, presented the code of conduct for responsible nanoscience and nanotechnology research and gave details of the action envisaged to implement it.

During the conference, representatives from academia, industry and government organisations had a very stimulating discussion about the possibility and expedience of adopting a similar code in the region. They agreed on the need for a code of conduct. CECTE is now in charge of conducting a survey among stakeholders to collect a wide range of views on the issues of concern, to produce recommendations about implementation of the code and risk assessment and to incorporate the principles of the code of conduct into scientific and industrial practice.

In December 2007, CECTE organised a workshop on neurosciences and society to analyse a discussion paper on the molecular bases of memory formation, retrieval, persistence and extinction written by three leading scientists in the field. During the meeting, the committee concluded that the issue is linked to new developments in medicine and biology, in humanities and in cognitive and social sciences and raises significant and complex ethical questions and concerns that have far-reaching implications for society and the social responsibility of science and research policy.

The Committee's work programme on neuroethics includes an international conference and drafting of a report in 2009.

## Current members

**Samuel Finkielman**, MD, former Director of the Institute for Clinical Investigation, University of Buenos Aires (UBA), working on clinical research.

**Stella González Cappa**, PhD in medicine, full professor, working on immunoparasitology and microbiology research in the School of Medicine (UBA).

**Alberto Kornblihtt**, PhD in biochemistry, full professor and an international research scholar with the Howard Hughes Medical Institute, working on molecular biology in the School of Sciences (UBA). His project is studying mechanisms of coupling between transcription and alternative mRNA splicing in human cells.

**Karen Hallberg**, PhD in physics, researcher at the Atomic Centre Bariloche and Balseiro Institute, member of the Pugwash Conferences for Sciences.

**Ivan Izquierdo**, PhD in medicine, Director of the Memory Research Centre, Pontifícia Universidade Católica do Rio Grande do Sul, Brazil, member of the National Academies of Sciences of Argentina, Brazil, the USA and EU countries, working on the molecular mechanisms of formation, evocation, persistence and extinction of memory.

**Noé Jitrik**, professor of literature and critics at the UBA, UNAM and Colegio de Mexico (Mexico) and at US and EU universities, writer, Director of the Institute of Latin American Literature (UBA).

**Aída Kemelmajer**, PhD in law, State Supreme Court of Justice, full professor at the University of Cuyo, Mendoza, and at several universities in Argentina and the EU and member of the National Academy of Law and Social Sciences.

**Ernesto Maqueda**, PhD in physics, researcher in theoretical physics at Tandar Laboratory and member of the National Commission on Nuclear Energy.

**Armando Parodi**, PhD in biochemistry, Director of the Leloir Foundation, member of the National Academy of Science of Argentina and of the USA and of other academies in Latin America and Europe and an international research scholar with the Howard Hughes Medical Institute, studying the mechanisms by which proteins that follow the secretory pathway acquire their three-dimensional structures in the endoplasmic reticulum.

**Carolina Vera**, PhD in meteorology, professor and Vice-Dean of the School of Sciences (UBA), Chairperson of the American Meteorological Society/STAC Committee on Southern Hemisphere Meteorology and Oceanography, working on climate change at the Research Centre on Oceanography and Atmosphere in the School of Sciences (UBA).

## Further information

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# The Australian Health Ethics Committee

## Australia

The Australian Health Ethics Committee (AHEC) is a principal committee of the National Health and Medical Research Council (NHMRC), established under the NHMRC Act 1992.

## Functions

The NHMRC Act 1992 establishes that the functions of the AHEC are:

- to advise the Council on ethical issues relating to health;
- to develop and give the Council human research guidelines;
- any other functions conferred on the Committee in writing by the minister after consulting the CEO;
- any other functions conferred on the Committee by the NHMRC Act 1992, the regulations or any other law.

The AHEC also plays a role in supporting the system of ethical review of human research, which is undertaken by institutional human research ethics committees (HRECs) of which there are approximately 230 in Australia.

## Terms of reference

In addition to the above, in the current period (2006–09), AHEC has been asked to:

- develop and give the Council guidelines for the conduct of health research involving humans, additional to those required for the second point above;
- promote ethical conduct in health and medical research involving humans;
- support and facilitate the work of institutions and of human research ethics committees in the oversight of health and medical research;
- foster community debate, and consult with relevant stakeholders on ethical issues in health, and health and medical research;
- provide advice to the Council on ethical issues in health research and medical research;
- monitor international developments in ethical issues relating to health and health and medical research involving humans, and liaise with relevant international organisations and individuals.

## **Composition of the Australian Health Ethics Committee**

Members of the AHEC are appointed by the Minister for Health and Ageing for a period of three years. All Committee members are part-time appointees, and meet on several occasions each year. There are 14 different membership categories for AHEC members:

- chair;
- knowledge in the ethics of medical research;
- expertise in law;
- expertise in philosophy;
- expertise in religion;
- expertise in medical research;
- expertise in public health research;
- expertise in social science research;
- expertise in clinical medical practice;
- experience in nursing/allied health practices;
- knowledge of regulation of medical profession;
- understanding of health consumer issues;
- understanding of the concerns of people with a disability;
- expertise relevant to the functions of the Committee (two members),

## **Decision-making processes**

The Committee proceeds through deliberation to consensus decisions, supported by experienced staff. Under the NHMRC Act 1992, the NHMRC is required to conduct public consultation before releasing guidelines. Draft guidelines are released for public consultation for at least 30 days. All submissions received are considered before the AHEC decides on the final form of guidelines or advice. Decisions of the AHEC take the form of recommendations to the Council, who make recommendations to the CEO, as to whether guidelines or advice should be issued.

## **Governance**

Until July 2006, the NHMRC was part of the Australian Commonwealth Department of Health and Ageing. In July 2006, the NHMRC became an independent statutory agency, with the CEO reporting directly to the Minister for Health and Ageing. There is the equivalent of 230 full-time internal staff at the NHMRC. Nine staff concentrate exclusively on health and research ethics.

## **Current projects**

- Commercialisation of human tissue — issues paper

The purpose of this issues paper is to identify ethical issues in the commercialisation of human tissue including biobanks and products derived from human tissue.

- National ethics application form (NEAF)

NEAF is a dynamic, interactive, web-based tool for researchers of all disciplines to complete research ethics proposals for submission to the human research ethics committees (HRECs). The aim of the NEAF is to increase the efficiency and quality of the ethical review process for

both HRECs and researchers, by ensuring that HRECs are provided with consistent information to allow them to effectively assess applications for ethical review.

- Other projects

AHEC is involved in the harmonisation of a national system where a single scientific and ethical review applies to research carried out at more than one site. The AHEC is also considering ethical issues involved in the treatment of addictions, ageing with chronic illness and revising current guidelines on the protection of privacy in health research.

## **Recent publications**

### *National statement on ethical conduct in human research 2007*

This is the primary document to guide researchers, human research ethics committees (HRECs) and research institutions.

*Ethical guidelines for the care of people in post-coma unresponsiveness (vegetative state) or a minimally responsive state 2008* and accompanying *Guide for families and carers of people with profound brain damage 2008*.

These guidelines aim to contribute to the care of people in post-coma unresponsiveness or a minimally responsive state by addressing the ethical issues associated with this care, especially the complicated issues that have proved difficult for families, health professionals, courts and tribunals.

### *Organ and tissue donation guidelines 2007*

The AHEC has developed four sets of guidelines on organ donation to cover donation by living donors and donations after death, with separate guidelines for health professionals and consumers on each.

### *Ethical guidelines on the use of assisted reproductive technology in clinical practice and research 2007*

This document is a revision of the 2004 guidelines to take into consideration amendments in Australian legislation. The guidelines provide ethical advice in areas such as human egg donation, research on embryos that are unsuitable for implantation, research on embryos created by somatic cell nuclear transfer and ‘proper consent’ in relation to the donation of human eggs and embryos.

### *Keeping research on track: a guide for Aboriginal and Torres Strait Islander peoples about health research ethics 2006*

This booklet is a resource document for Aboriginal and Torres Strait Islander people to refer to when making decisions about health research in their communities.

## **Further information**

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# The Institutes of Health Research (CIHR)

## Canada

### CIHR's mandate

CIHR is Canada's premier federal agency for health research. Its objective is to excel, in accordance with internationally accepted standards of scientific excellence, in generating new knowledge and turning it into better health for Canadians, more effective health services and products and a strengthened healthcare system.

CIHR delivers on this through 13 virtual institutes and by working across four pillars (biomedical and clinical research; research relating to health systems and health services; research regarding health of populations; and environmental influences on health and social and cultural dimensions of health).

In the area of ethics, the Canadian Parliament has given CIHR a mandate to:

- promote, assist and undertake health research that meets the highest standards of ethics;
- foster discussion of ethical issues and application of ethical principles to health research;
- monitor, analyse and evaluate ethical issues pertaining to health or health research;
- encourage interdisciplinary, innovative and integrative research on ethical issues pertaining to health;
- turn the results of that research into better health for Canadians, more effective health services and a stronger healthcare system;
- advise the Minister for Health on matters relating to health research or health policy.

CIHR seeks to achieve its mandate on ethics in three ways:

- **ethics of research:** developing and implementing policies and guidelines to fulfil the ethical and legal responsibilities that CIHR holds as a research sponsor;
- **research in ethics:** building capacity in ethics, supporting development and coordination of strategic initiatives and funding research on ethics;
- **ethics advice on public policy regarding health and health research:** developing or influencing public policy and legislation in priority areas.

### Ethics of research

The Ethics Office has developed several guidelines and best practice for ethics in research and for addressing non-compliance with ethics policies. In addition, it supports partnerships with key organisations in the broader research ethics community.

- Research integrity management: the Research Integrity Committee (RIC) considers allegations of non-compliance with CIHR research policies and recommends action consistent with its internal procedure for addressing allegations of non-compliance with research policies. CIHR has no regulatory or quasi-judicial mandate. It does not investigate allegations of non-compliance with research policies. Instead, it refers allegations to the institutions which it funds for investigation and requires the institutions to report back their findings.
- Governing Council's Stem Cell Oversight Committee (SCOC): this Committee, set up in 2003, reviews all human pluripotent stem cell research conducted under the auspices of institutions receiving agency funding (CIHR, the Natural Sciences and Engineering Research Council (NSERC) and the Social Sciences and Humanities Research Council (SSHRC)) to ensure conformity with its *Guidelines for human pluripotent stem cell research*.
- Support for the Canadian Council on Animal Care (CCAC): CCAC is responsible for drafting guidelines on the ethical treatment of animals in Canadian research. It also develops and administers an inspection programme to oversee implementation of these guidelines (CCAC is funded jointly by CIHR and NSERC).

Development and implementation of research ethics policies: Major achievements in this area include:

- stem cell research: *Pluripotent stem cell research: guidelines for CIHR-funded research* (2002, 2005);
- institutional conflicts of interest — sponsorship of health research and dissemination of research results (2004);
- privacy and confidentiality in health research — *Best practice for protecting privacy in health research* (2005);
- national placebo initiative (jointly with Health Canada) (2002–07);
- *CIHR guidelines for health research involving aboriginal peoples* (2007);
- longitudinal cohort studies — ethical, legal and social issues (in progress).

## **Research in ethics**

CIHR encourages interdisciplinary, innovative and integrative research on ethical issues pertaining to health and also fosters discussion of ethical issues to strengthen the research ethics and integrity culture in Canada. Research in ethics is supported by a special research fund of USD 1 million per year and often in collaboration with CIHR's institutes.

## **Ethics advice on public policy relating to health and health research**

CIHR has made several significant contributions to national debates, supporting development of regulatory frameworks and policies in several critical areas.

*Governance of ethics involving humans in research:* In partnership with other key stakeholders, CIHR has been at the forefront of forging consensus on the future of ethics governance in Canada, for example in the following ways:

- participation in the national sponsors table on governance of research involving human subjects;

- development of the Assisted Human Reproduction Act and associated regulations (lead department: Government of Canada's Department of Health);
- amendment to the Criminal Code of Canada: new provisions on cruelty to animals (via the Canadian Council on Animal Care).

*Stem cell research:* In the absence of regulations governing stem cell research, CIHR established guidelines on the use of human embryonic stem cells in health research. The 2002 guidelines were incorporated by reference into the Assisted Human Reproduction Act that received royal assent on 29 March 2004.

*Privacy:* In addition to development and publication of its *Best practice for protecting privacy in health research*, CIHR has led a number of initiatives in the area of privacy, including the following works:

- compendium of Canadian legislation on protection of personal information in health research (April 2000);
- Personal Information Protection and Electronic Documents Act — questions and answers for health researchers (2001);
- selected international legal norms on the protection of personal information in health research (2001);
- secondary use of personal information in health research: case-studies (2002).

## International involvement in ethics

- Input into the Unesco Universal Declaration on Bioethics Norms and Human Rights (2005) — the Ethics Office participated in the federal interdepartmental working group on Canada's input.
- Participation in the global health research initiative.
- Participation in the Global Forum on Bioethics in Research.
- Support for the Canadian Coalition in Global Health Research and the Canadian Society for International Health.

## Ethics bodies within CIHR

- Standing Committee on Ethics (SCE): provides the governing council with high-level strategic advice on major ethical issues and policies relevant to CIHR's overall mandate.
- Institute Advisory Board Ethics Designates (IABEDs): each Institute Advisory Board has an ethics designate, a person with expertise in ethics, to provide advice on ethical matters of relevance to the institutes.
- Ethics Office: the key mechanism for achieving CIHR's ethics objectives, providing support to the SCE, SCOC and IABEDs.
- Health Ethics, Law and Humanities Peer Review Panel: awards grants to conduct systematic analyses of values and ethical theory as applied in healthcare, health research and new health technologies.
- Interagency Advisory Panel on Research Ethics: advises the major federal granting agencies (CIHR, NSERC and SSHRC) on the ongoing development of the *Tri-Council policy statement: ethical conduct for research involving humans (1998)*.

## **Further information**

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# The National Commission of Bioethics

## Mexico

### **Implementing the bioethics culture in Mexico: the task of the National Commission of Bioethics**

*Dafna Feinholz Klip*

The National Commission of Bioethics in Mexico has grown in importance and status over time. It was first established in 1992 as a group of academics who wanted to discuss issues related to bioethics. In 2000, a presidential agreement declared it a permanent body, and, from 2005, it has been recognised by presidential decree as a more independent body. It is ‘deconcentrated’ from the Ministry of Health, which means it has technical and operational autonomy. Its budget still comes from the Ministry of Health, which appoints the president and members of the Council, who change every two years. However, the structure of the National Commission of Bioethics is built around permanent members, who are responsible for the operation of the Commission and for putting in place the policies and programmes approved by its Council. They are civil servants, appointed in response to a public advertisement followed by an independent selection process, and cannot be removed by political changes.

The objective of the National Commission of Bioethics is to build a bioethics culture in Mexico. Its mandate focuses on activities directed towards formulating public policy, building infrastructure and creating public awareness. It is officially responsible for defining national policies on bioethics, for establishing public health policies related to bioethics and for acting as the national body to be consulted on specific issues connected with bioethics.

Publishing reports is not its main task. In fact, it issues no reports as such. The aim is to bring together the bioethical issues of social concern. To this end, the National Commission sets out to provide society with relevant, sound and objective information and with the full range of founded ethical arguments on the topic debated. It wishes to promote and support a reflective attitude, i.e. the ability to deliberate in a respectful, informed, founded, multidisciplinary and pluralistic way.

The National Commission employs diverse strategies to achieve this aim. It has a website on which interesting information is made available to the general public and which people can contact if they have any questions and special needs. It is in the process of establishing a Centre of Bioethical Knowledge (CECOBE), which is more than a library and a newspaper archive; it is an intelligent service that will be able to identify potential users and send them information which could be useful for their activities. Already, the CECOBE has an extensive collection of electronic journals and books, offers free help to retrieve papers and gives the research ethics

and clinical committees free access to the collections. There is also a library with printed books and journals and an inter-library exchange service.

Other activities oriented towards society include publication of *Debate Bioético* (Bioethical Debate). This is a journal on a particular issue (e.g. therapeutic cloning or the debate at the UN on cloning), which brings together the ethical arguments and diverging perspectives and is written by members of the National Commission or by an external author at its request. The first issue is circulated among stakeholders, whose views and opinions are then included in a second edition, which is further circulated.

The National Commission has organised two public forums, one on dying with dignity, the other on the impact of homophobia on healthcare. The forums have been multidisciplinary and plural, analysing diverse aspects of the topics, from hard evidence to social, psychological, philosophical, medical and ethical perspectives. One outcome is a publication on each forum, containing all the papers.

The last strategy which must be mentioned is publication in a widely read national newspaper of an overview of the ethical arguments on abortion at the height of the controversy over a new law.

Turning to advisory activities, the National Commission has issued opinions and recommendations to the legislative bodies on initiatives related to bioethics, for example abortion, assisted reproduction, advance directives, palliative care and cloning. There is a formal channel of communication between the legislature and the executive which the Commission uses to make recommendations.

Activities regarding public policies focus on priority-setting in the social protection system. A collaboration agreement has been concluded between Harvard Medical School and the Mexican Ministry of Health. Dr Norman Daniels has been working very closely with the National Commission, which therefore uses the accountability for reasonableness model. The objective is to develop a priority-setting method based on justice and equity and to analyse the ethical implications of priority-setting for high-cost interventions on health. One important point to explore is whether inclusion of elective interventions helps to increase equity in access to health, whether real or potential, particularly for the poorest and more vulnerable.

To accomplish the goal of building bioethics infrastructure, the National Commission has a mandate to promote establishment of bioethics commissions in every federal state and of research ethics committees and hospital (clinical) bioethics committees at public and private health institutions, to support training for its members and to produce and disseminate guidelines for research ethics committees and hospital (clinical) bioethics committees. Mexico is made up of 32 federal states and the health system is decentralised. The National Commission therefore coordinates and steers the process, respecting each state's own needs and priorities, but setting the criteria for them to apply on specific issues, such as for establishment of research ethics and clinical committees. In 2005, nine federal states had bioethics commissions in place. Today there are 20.

To date, the National Commission has issued the *National guidelines for integration and operation of research ethics committees*. Similar guidelines for clinical committees will be ready soon. Permanent working groups have been established, one for the research ethics committees

and another for the clinical committees. The Commission will start a national registry of both types of committee and will soon be opening discussion forums for each working group on its website. A database containing information on the protocols being reviewed by committees, their status and the reasons for rejection will be shared by the research ethics committees. A training course for 105 members of ethical committees has just finished.

The National Commission has been endorsing and rewriting a draft law, now expected to be adopted, specifying the functions of and differences between research ethics committees and clinical committees. The text was discussed and approved with the health sector and can be summed up as follows.

Every public, private or social healthcare institution in the national health system will, depending on its complexity and resolution level, have:

- a hospital bioethics committee, which will be responsible for analysis, discussion and support for decision-making related to bioethical dilemmas that emerge from healthcare delivery or teaching, for promoting drafting of institutional guidelines/protocols for healthcare delivery and teaching, and for promoting continuous bioethics training for its members and institutional personnel;
- a research ethics committee, which will be responsible for ethical evaluation of the research protocols on human beings, for drafting institutional guidelines for health research and for following up its recommendations.

The National Commission in Mexico has been playing a full part in the Unesco Intergovernmental Bioethics Committee and has participated in the discussions on and final drafting of the Universal Declaration on Bioethics and Human Rights. It has also been attending the meetings of the Council of Europe Steering Committee on Bioethics (CDBI), where Mexico has been accepted as an observer State. The National Commission of Bioethics in Mexico is also participating in research projects funded by the European Commission on ethical issues connected with benefit sharing and genetic material in developing countries.

## **Further information**

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# The Philippine Health Research Ethics Board

## **Philippines**

### **Background**

There are various types of ethics committees operating in the Philippines. For example, professional groups or societies have ethics boards or committees which set standards for practice and regulate professional conduct, such as the Commission on Ethics of the Philippine Medical Association. Most medical centres and hospitals have ethics committees that look into patient care and the professional conduct of health personnel. In addition, a special national ethics committee monitors the ethics of kidney donation under the auspices of the Department of Health.

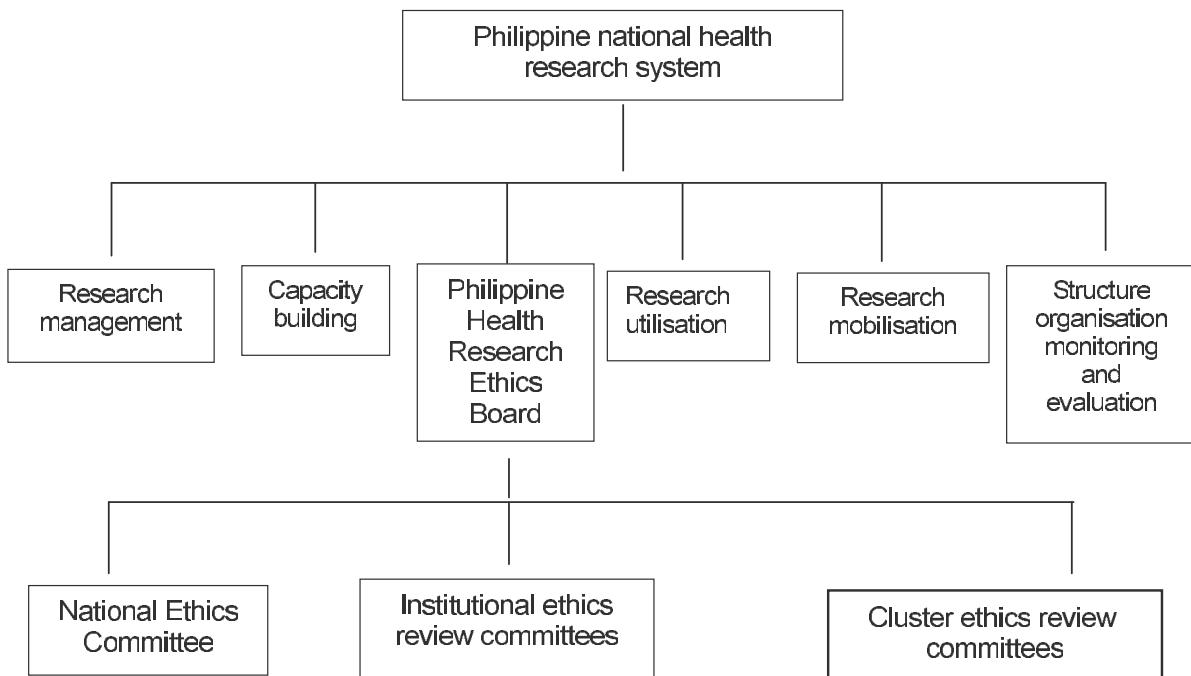
Since the 1980s, institutional research ethics committees have been set up to protect the welfare and rights of human research participants and to promote the integrity of research data.

### **Establishment of the Philippine health research system**

In 2003, a memorandum of understanding between the Department of Science and Technology (DOST) and the Department of Health (DOH) led to the establishment of the Philippine national health research system (PNHRS) that envisages a ‘vibrant, dynamic, and responsible health research community working for the attainment of national and global health goals’. The collaboration subsequently included the Commission on Higher Education and the University of the Philippines—National Institutes of Health. The PNHRS endeavours ‘to create and sustain an enabling environment for health research through evidence-informed health and health-related policies and actions’. Six technical working groups were organised to flesh out the strategic plan over the next five years. One of these was the Technical Working Group on Ethics, which emphasised the importance of ethics in promoting a robust and responsible health research system. The Technical Working Group on Ethics subsequently recommended the establishment of the Philippine Health Research Ethics Board (PHREB) in order to institutionalise its policies and plans.

### **The Philippine Health Research Ethics Board (PHREB)**

The organisational structure of the Philippine national health research system (PNHRS) shows the PHREB as one of its six working groups (see overleaf).



The PHREB was formally constituted on 17 March 2006 with a multidisciplinary and multisectoral membership. Its mandate is ‘to ensure that all phases of health research adhere to universal ethical principles that value the protection and promotion of the dignity of health research participants’. It is the standard-setting and policy-making body for research ethics review. Under its supervision are the National Ethics Committee (NEC), institutional ethics review committees and cluster ethics review committees.

The NEC reviews community-based research projects and those that will be conducted in institutions without an institutional ethics committee. At present, there are 62 institutional ethics review committees officially registered in the PHREB database, which was started in 2007. The formation of cluster ethics review committees is being proposed for institutions where establishment of an IERC of their own is not sustainable.

## Activities and accomplishments

The PHREB endeavours to pursue the following objectives:

- to formulate policies and set directions in ethical health research;
- to develop and strengthen the capacity of research institutions in human protection;
- to help empower patients/participants and the community in health research;
- to develop coordinative mechanisms with regulatory agencies for research ethics review.

The PHREB, in collaboration with the National Ethics Committee, has published the 2006 revision of the national ethical guidelines for health research. Over the past two years, the Committee has conducted several ethics review training sessions for researchers and members of institutional review committees. A database of ethics committees has been set up that includes lists of committee members and their ethics training. The PHREB has also initiated a programme for recognition and accreditation of ethics review committees by issuing the appropriate guidelines. Most importantly, it has had contacts with the Bureau of Food and Drugs with regard to a clinical trial registry and a pharmacovigilance project.

## **Members (2006–09)**

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Albert Rebosa	(Law)
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Elizabeth Ventura	(Social science)
Abdulrahim Bagundang	(Youth sector)
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# University of Zambia Biomedical Research Ethics Committee

## Zambia

### **Highlighting successes and challenges in Zambia**

*Dr Esther Munalula Nkandu*

Zambia houses a number of research projects that involve human participants and vertebrate animals. The research is undertaken at various levels ranging from undergraduate/postgraduate to multi-centre studies. Most of the research is conducted amongst people who are ‘vulnerable’, not very literate or do not fully understand their rights pertaining to research. In a developing country such as Zambia, there is great need for those participating in such research to be adequately protected from physical and social harm and from any violation of their rights. It must be stated, though, that the level of knowledge about research is on the increase in the various communities, especially those that have been ‘over-studied’.

The University of Zambia Research Ethics Committee, Unzarec (now called the UNZA Biomedical Research Ethics Committee after the UNZA established two other committees) has for some time acted as a national research ethics committee. The Ministry of Health in Zambia has now established a National Research Ethics Committee (REC), which will deal with issues of policy and accreditation and will further consolidate the legal framework for conducting research in the country. The REC faces a number of challenges, ranging from inadequate resources and personnel for inspection and monitoring of ongoing approved research activities to inadequate funding for other administrative REC functions. Other challenges are issues of exportation of samples (human tissue) for undisclosed future research — mainly DNA research and, in my opinion, inadequate capacity building.

As regards research that is purported to be taking place in rural areas and in health institutions under the ‘pretext’ of it being therapy (therapeutic misconception), there is a need for more RECs to be established and for stiffer penalties to be put in place to deter would-be offenders. The UNZA Biomedical REC has been involved in a number of activities over the past few years. To highlight but a few, the Committee has:

- acted as a resource for the training of new Research Ethics Committee members in the newly established committees of the university;
- contributed towards the development of terms of reference and standard operational procedures (SOPs) for the National Research Ethics Committee;
- conducted training of undergraduate and postgraduate students in the school of medicine on the principles of research ethics;

- undertaken training of community representatives in basic research ethics and on their roles as representatives of communities;
- presented papers at national and international conferences making researchers, clinicians and other health providers aware of ethical guidelines;
- established a database of all research that has been reviewed for monitoring purposes and for the purpose of informing stakeholders of ongoing research;
- developed its own SOPs.

Despite these measures that have been put in place, Petra (2007) claims that there has been an increase in non-ethically reviewed research in Zambia. Unfortunately, the author does not substantiate her claims. In a similar vein, Ngandwe (2005) has also reported that some researchers in Zambia have been able to avoid ethical review. Ngandwe further reports that misconduct observed by the RECs in Zambia should result in fines or discontinuation of the project and that, if necessary, the researchers involved should be forbidden from conducting further research. Beyond this, there is a need for professional registration bodies like the Medical Council of Zambia to be kept informed, as unethical research could equate to malpractice or professional misconduct. Further, there is a need for researchers/research sites to work more closely with insurance companies to cover participants adequately and ensure that the burden of caring for participants who suffer serious adverse effects (SAEs) or reactions is not passed on to the Ministry of Health. Benatar (2007) reports a stand taken by chairpersons of RECs in South Africa (34 in total — Moodley and Myer (2007)) not to permit studies that do not provide insurance cover for research-related injuries. This is a very welcome stand (also enforced by the UNZA Biomedical REC), as it helps to reduce the cost of care on health institutions long after the researchers have left the country. Taking a lead from the REC chairpersons in South Africa, this is a stand that should be taken by all RECs in developing countries.

The issues of consent in Zambia can be very mixed depending on what the issue at hand is that a person needs to give consent to (Nkandu, 2004). The process of giving consent to participating in research is no exception. This is often influenced by factors such as culture, norms, values, traditions, beliefs and practices. Zambia has a very rich culture, and so many factors can influence the consent process in research. These include respect for elders, caregivers, rulers (especially traditional rulers) and gender (which often has a bias towards men).

Moodley and Myer (2007) conducted a study into the composition, operations and training needs of RECs in South Africa. The country is reported to house a number of multinational collaborative research units, yet the ‘quality and consistency of ethical review ... remains unclear’. The study also gives reasons why researchers prefer to conduct their research in Africa: it costs less; it involves lower risks of litigation; and there is less stringent ethical review.

This is a paradox. While some researchers from developed countries continue to say that Africa should pull its socks up and abide by international regulations, others are willing to conduct research that is not ‘properly reviewed’ in order to save money. Countries and researchers that ‘see shortcomings in Africa’ should consider investing in training and lead by example.

Rubin and Sieber (2006) point to the fact that some RECs/IRBs focus more on enforcing regulations governing the protection of human participants (mainly paper work) than on protecting the participants by effectively reviewing the research protocols. Some kind of balance

needs to be struck whereby RECs address the administrative issues without compromising the quality of the review process.

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# **International ethics committees**

# The Council of Europe's Bioethics Division

## **Normative activities**

- Additional Protocol to the Convention on Human Rights and Biomedicine, concerning Genetic Testing for Health Purposes

The draft Protocol concerning Genetic Testing for Health Purposes, approved by the Steering Committee on Bioethics (CDBI) in June 2007, was adopted by the Committee of Ministers on 7 May 2008. It will be opened for signature on 27 November 2008.

Genetic counselling, direct access to tests and genetic tests for the benefit of family members carried out on persons not able to consent are among the issues addressed in this Additional Protocol to the Convention on Human Rights and Biomedicine (Oviedo Convention). The text of the Protocol, together with the Explanatory Report, can be consulted on the Council of Europe website:

<http://conventions.coe.int/Treaty/EN/Treaties/Html/TestGen.htm>

<http://conventions.coe.int/Treaty/EN/Reports/Html/TestGen.htm>

- Genetic testing and insurance

The Council of Europe Steering Committee on Bioethics (CDBI) is currently working on the questions of predictivity, genetics tests and insurance with a view to drafting a new legal instrument.

A Working Party on Predictivity, Genetic Tests and Insurance has been set up and will meet for the first time on 6 and 7 November 2008.

Last year, on 3 and 4 December 2007, the CDBI organised a seminar on ‘predictivity, genetic tests and insurance’ in Strasbourg. Videos of the presentations (in French and English) and other documents can be consulted on the Council of Europe website.

- Guide for research ethics committee members

The working party responsible for drawing up a guide for research ethics committee members is finalising a preliminary draft which will be submitted to the CDBI in December 2008.

## **Further information**

For more information on the above items, please consult the Council of Europe website:  
<http://www.coe.int/bioethics>

# Unesco

## **The 15th session of the International Bioethics Committee of Unesco: Unesco headquarters, Paris, October 2008**

The 15th (ordinary) session of the International Bioethics Committee (IBC) will be held at Unesco headquarters in Paris on 28 and 29 October 2008. It will be followed by a joint session of the IBC and the Intergovernmental Bioethics Committee (IGBC), convened by the Director-General on 30 October and the morning of 31 October 2008 to foster exchanges between the two committees on the ongoing work.

The IBC was set up in 1993 and is a committee of 36 independent experts — appointed by the Director-General of Unesco in their personal capacity — that follows progress in the life sciences and applications thereof in order to ensure respect for human dignity and freedom.

The IGBC was set up in 1998 and is made up of 36 member countries elected by the General Conference of Unesco. It examines the work of the IBC and submits its opinions to the Director-General of Unesco.

Two main topics will be discussed during these meetings: the principle of social responsibility and health, as enshrined in the Unesco Universal Declaration on Bioethics and Human Rights (2005), and the issue of human cloning and international governance.

### **Social responsibility and health**

The introduction of social responsibility as a founding principle of bioethics was a major contribution made by the Universal Declaration on Bioethics and Human Rights, adopted by acclamation by the General Conference in 2005. The topics dealt with under this theme are sensitive ones, at the crossroads of fundamental political, economic and social issues. This new principle reflects the need to make bioethics part of an open-ended social and political debate by taking a holistic approach to health. This approach, consistent with the millennium development goals, takes into account such vital concerns as access to quality healthcare and to adequate food and water, improvement of living conditions and the environment, action to combat marginalisation and reduction of poverty and illiteracy.

The IBC began considering this principle when a working group drew up a preliminary draft report, which was examined and discussed on several occasions during 2006 and 2007. As part of its work programme for 2008–09, the IBC is continuing its work on this principle. The previous version of the draft report mainly included descriptive information and empirical health data, but now the Committee is concentrating on the ethical and legal dimensions of the principle of social responsibility and health and is working towards a more concise document focusing on the bioethical aspects.

The aim is not to duplicate the work or debates on public health policy issues already conducted in other international bodies, in particular the World Health Organisation. Instead, the idea is to determine the extent to which the international community and the United Nations system

can address those questions from a bioethical standpoint, each contributing its multifaceted experience and expertise.

The 15th session of the IBC and the joint session of the IBC and IGBC will allow an open and frank debate between specialists and constructive comparison of the universal ethical positions and values expressed and the practical approach taken by policymakers. This should lead to identification of appropriate ways and means of providing a framework that would stimulate the international community to address this issue adequately.

Based on the preliminary results discussed and examined in October, the IBC hopes it will be able to complete and finalise the draft report, with a view to approval of the final report at its 16th session in 2009.

### **Human cloning and international governance**

The complex ethical questions arising from human cloning are as deep as the range of religious and cultural views on the issue around the world. The existing diversity of opinion is hardly surprising considering that cloning of a human being, whether for reproductive or research purposes, raises fundamental questions about the dignity of life, the beginning of life and the status of the embryo.

The issue of human cloning and the appropriate international governance system for it have stirred profound thinking and debate within the United Nations and in the international community at large. International discussion began in Unesco more than 10 years ago and led to the consensus between member countries on human reproductive cloning reflected in Article 11 of the Universal Declaration on the Human Genome and Human Rights, adopted unanimously and by acclamation by the General Conference of Unesco in 1997. Article 11 states very clearly: ‘Practices which are contrary to human dignity, such as reproductive cloning of human beings, shall not be permitted’.

After almost four years of discussion, the United Nations General Assembly adopted the UN Declaration on Human Cloning in 2005, with 84 countries supporting it, 34 voting against and 37 abstaining. The wording of the document left room for very different interpretations, which reflected in part the dividing lines between member countries on this issue. The main bone of contention was the linking of reproductive and non-reproductive cloning, which was not acceptable to many countries, which abstained or voted against the declaration.

The IBC’s discussion on human cloning and international governance is based on the 2007 report by the United Nations University Institute of Advanced Studies (UNU-IAS) entitled *Is human reproductive cloning inevitable? Future options for UN governance*. This report summarised the latest technical information on cloning, the associated ethical issues and the state of the art concerning international governance of this area. It expressed the view that further development of international governance was needed and set out several options along these lines. In the absence of a binding international regulatory framework, practices associated with reproductive, therapeutic or research cloning are governed by national law and policy, leaving many parts of the world defenceless against scientists who are determined to pursue research in this area.

Due to the pressing nature of the issue, the Director-General of Unesco expressed his wish that examination of the UNU report should be added to the IBC's agenda as an item for discussion. Consequently, it has been included in the IBC work programme for 2008–09, and a special working group under the chairmanship of Professor Toivo Maimets (Estonia) has begun to explore whether the scientific, ethical, social, political and legal developments on human cloning in recent years justify a new initiative at international level.

The working group held its first meeting at Unesco headquarters in Paris from 30 June to 2 July 2008, one day of which was spent on a public hearing involving a broad-based group of experts in the field.

At its 15th session, the IBC will also benefit from a second round of public hearings with representatives of national bioethics committees and international scientific organisations. Based on the discussions at its 15th session and the exchanges with the IGBC at the joint session, the IBC will then decide whether it is ready to present its opinion to the Director-General or whether it needs to continue its work on this issue.

Unesco, with its wide-based, multicultural platforms such as the IBC and IGBC, is in a unique position to lead this thinking and explore the ethical aspects of human cloning in a way that accommodates the multiple views on the issue. The International Bioethics Committee and the Intergovernmental Bioethics Committee, as advisory bodies of this organisation, can play a pivotal role in the international bioethics system and the debate on human cloning and international regulation thereof and provide member countries with timely suggestions and possible pointers for more intense engagement in this field in years to come.

### **The IBC report on consent**

The principles set out in the Universal Declaration on Bioethics and Human Rights and the deliberations they are generating within the IBC are not about abstract concepts. They all have a tangible bearing on real and pressing ethical issues that shape our daily lives. One perfect example is the principle of consent, which, after extensive and in-depth discussions during the drafting of the declaration, became the subject of two full articles of the declaration (Articles 6 and 7). The same principle became the focus of the IBC's deliberations and the resulting report was finalised in May 2007.

The finalisation of the IBC report on consent in 2007 marked the start of publication of a new series of IBC reports intended to disseminate, effectively and broadly, the IBC's thinking and deliberations concerning specific principles enshrined in the declaration, thus fostering thinking and facilitating action by stakeholders.

The English version of the issue on consent is already freely available. The French version will be available in early 2009.

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## THE UNIVERSITY OF ZAMBIA

### DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

#### **STATEMENT ON THE UNIVERSITY OF ZAMBIA RESEARCH ETHICS COMMITTEES (UNZA RECS).**

The University recognizes that research includes a number of activities that share the property of being innovative. However, the integrity of any research does not only depend on its scientific rigour but also on its ethical adequacy. Ethical issues are many and varied, and may be quite complex. All research involving human and animal participants should be conducted in accordance with the three ethical principles of:

- Respect for people and animals
- Beneficence; and
- Justice

Since Zambia is part of the international research community, all research must strictly abide by the International Ethical Guidelines for research involving human and animal participants. Emphasis must, therefore, be placed on informed consent, equitable distribution of burdens and benefits and safeguarding confidentiality. In medical research physically invasive procedures are easily defined, but what constitutes risk in social research is sometimes less clear-cut. Questionnaires, observations and interviews can all be potentially intrusive and provoke anxiety in participants or worse involve psychological risk. Some participants are unable to give informed consent and are therefore less able to protect themselves.

In order to assist those who intend to undertake research involving human and animal participants, the University of Zambia had established three research Ethics Committees as follows:

(a) **Biomedical Research Ethics Committee** which comprises of the following representatives from:

- School of Medicine
- University Teaching Hospital
- School of Veterinary Medicine
- School of Agricultural Sciences
- Institute for Economic and Social Research
- National Institute for Scientific and Industrial Research
- Ministry of Health
- Ministry of Agriculture
- Legal Counsel, University of Zambia
- Religious Leader
- General Public
- Civil Society
- Directorate of Research and Graduate Studies

**(b) Natural and Applied Sciences Research Ethics Committee** which comprises the following representatives from:

- School of Natural Sciences
- School of Medicine
- School of Engineering
- School of Agricultural Sciences
- School of Mines
- Institute for Economic and Social Research
- Executive Secretary, National Science and Technology Council
- Zambia Agricultural Research Institute
- Legal Counsel, University of Zambia
- Religious Leader
- General Public
- Civil Society
- Directorate of Research and Graduate Studies

**(c) Humanities and Social Sciences Research Ethics Committee** which comprises the following representatives from:

- School of Humanities and Social Sciences
- School of Education
- School of Medicine
- School of Law
- Institute for Economic and Social Research
- Religious Leader
- General Public
- Civil Society
- Directorate of Research and Graduate Studies

The three Research Ethics committees' mandate is not restricted to the University of Zambia researchers but also covers collaborative research with other institutions.

The main role of these Committees, therefore, is to review and approve research proposals and protocols dealing with human and animal participants. Each Committee has a Chairperson. However, all applications seeking approval of the research proposals from the above Committees, will be required in the first instance to be directed to:

The Director  
 Directorate of Research and Graduate Studies  
 University of Zambia  
 P.O. Box 32379  
 LUSAKA  
**ZAMBIA**

## GOVERNMENT OF ZAMBIA

**ACT****No. 11 of 1999**

Date of Assent: 4th October, 1999

**An Act to provide for the establishment, regulation, control and functions of public and private universities; to repeal and replace the University Act, 1992; and to provide for matters connected with or incidental to the foregoing.**

[10th December, 1999]

ENACTED by the Parliament of Zambia.

Enactment

**PART I****PRELIMINARY**

**1.** This Act may be cited as the University Act, 1999, and shall come into operation on such date as the Minister may, by statutory instrument, appoint.

Short title  
and  
commencement

**2.** In this Act, unless the context otherwise requires—

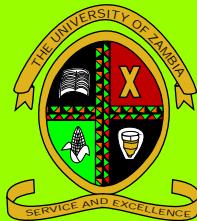
Interpreta-  
tion

" affiliated institution " means any college or educational institution affiliated to a public university under section *five*;

" appointed date " means such date as the Minister may appoint under section *one*;

" Bursar " means the person appointed Bursar of a public university under section *twelve*;

" Chancellor " means the person appointed Chancellor of a public university under section *seven*;



**THE UNIVERSITY OF ZAMBIA**

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# **RESEARCH POLICY AND INTELLECTUAL PROPERTY RIGHTS**

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**DIRECTORATE OF RESEARCH AND  
GRADUATE STUDIES**

**June 2009**

**RESEARCH POLICY & INTELLECTUAL  
PROPERTY RIGHTS**

**DIRECTORATE OF RESEARCH AND GRADUATE  
STUDIES**

**June 2009**

## CONTENTS

PREFACE	vii
FOREWORD	viii
ACRONYMS	ix
EXECUTIVE SUMMARY	x
<b>1.0 INTRODUCTION</b>	1
1.1 Background	2
1.2 Research Policy Environment	2
1.2.1 Regional Context	3
1.2.2 National Context	3
1.2.3 Networks and Partnerships	4
1.2.4 Universities and Development	5
1.3 Situation Analysis	5
1.3.1 Levels of Research Activities	5
1.3.2 Research by Academic staff	6
1.3.3 Postgraduate Research	7
1.3.4 Research Funding	7
1.3.5 Research Infrastructure	8
1.3.6 Information Dissemination	8
1.4 Challenges Facing UNZA	8
1.5 Rationale for Policy	9
<b>2.0 VISION AND MISSION STATEMENTS</b>	10
2.1 Vision	10
2.2 Mission	10
<b>3.0 POLICY OBJECTIVES</b>	10
3.1 General Objective	10
3.2 Specific Objectives	11
3.2.1 Human Resource Development Capacity Building	11
3.2.2 Research Funding	11
3.2.3 Management of Research	12
3.2.4 Management of Research Funds	12
3.2.5 Research Infrastructure	12
3.2.6 Quality Management and Research Ethics	13
3.2.7 Data Management and Dissemination	13
3.2.8 Recognition of Excellence in Research	14
3.2.9 Institutional Collaboration	14

3.2.10	Postgraduate Students Research	14
3.2.11	Undergraduate Research	15
3.2.12	Intellectual Property Rights	15
<b>4.0</b>	<b>INSTITUTIONAL RESEARCH FRAMEWORK</b>	<b>16</b>
4.1	Research Board	16
4.1.1	Functions of Research Board	16
4.1.2	Composition of Research Board	16
4.2	Directorate of Research and Graduate Studies (DRGS)	17
4.2.1	Functions of DRGS	17
4.2.2	Research Structure of DRGS	17
4.3	The University of Zambia Research Ethics Committees (UNZA-RECS)	18
4.3.1	Number of Research Ethics Committees	18
4.3.2	Functions of Research Ethics Committees	18
4.3.3	Membership of Research Ethics Committees	19
4.4.	Research Audit, Implementation and Monitoring Committee (RAIMC)	20
4.4.1	Functions of RAIMC	20
4.4.2	Composition of RAIMC	20
4.5	Institute of Economic and Social Research (INESOR)	20
4.5.1	Functions of INESOR	20
4.5.2	Structure of INESOR	21
4.6	School Research Committees	21
4.6.1	Functions of School Research Committees	21
4.6.2	Composition of School Research Committee	21
4.6.3	Assistant Dean Research	22
4.7	Research Funding	22
4.7.1	Internal Research Funding	22
4.7.2	External Research Funding	22
4.7.3	Management of Research Funds	23
4.8	The Intellectual Property Management Unit, IP Advisory Committee and IP Enterprises	23
4.9	Research Infrastructure	24
4.10	Dissemination of Research Findings	24
4.11	Application of Research Findings	25
4.12	Implementation of the Research Policy	25

5.0	<b>REFERENCES</b>	25	
	<b>APPENDICES</b>	26	
	Appendix 1: Definitions and Abbreviations	26	
	Appendix 2: Ethical Requirements and Standards for Research	26	
	<b>FIGURES</b>		
	Figure 1.	Organogram for UNZA Research Policy Implementation	29
	Figure 2.	Sources and Flow of Funding for Research at UNZA	30

## PREFACE

The University of Zambia (UNZA) is one of the three public universities established by the Government of the Republic of Zambia (GRZ) to provide higher education in the country through teaching, research and public service. To carry out these functions, UNZA has nine schools consisting of Agricultural Sciences, Education, Engineering, Humanities and Social Sciences, Law, Medicine, Mines, Natural Sciences, and Veterinary Medicine. With the firm established undergraduate programmes by late 70s, UNZA introduced post-graduate programmes in the 80s and by 1994 established the Directorate of Research and Graduate Studies (DRGS) with a mandate to promote and coordinate post-graduate studies and research at the University. DRGS's core function in research is therefore to create an enabling environment for University staff and students, and public at large to be involved in research activities.

Whereas, the University has made tremendous progress in teaching and service, research has lagged behind particularly in the area of scholarly publications, their commercialisation and protection. To promote scholarly research, publication, commercialization and protection, and interaction between UNZA and the Zambian public, private and civil sectors, the Directorate of Research and Graduate Studies embarked on developing a Research Policy and Intellectual Property Policy.

It is our belief as a Directorate, that members of the University Community, the Zambian public, private and civil sector will find the Research Policy and the Intellectual Property Policy stimulating and encouraging to undertake research, publish and commercialise it not only at UNZA but in the entire country.

We look forward and encourage the academia, the public, private and civil sectors to partner and undertake research of multi-disciplinary nature guided by these Research and Intellectual Property policies.



Professor Imasiku Anayawa Nyambe  
Director, Directorate of Research and Graduate Studies  
University of Zambia

## FOREWORD

One of the core functions of every University is research. Universities have been known to be engines of discovery and generation of new knowledge through research. Research ultimately contributes to national development through innovations and technological advancements. The Vision 2030 vision for Zambia recognizes that “the country needs to intensify the development and application of science and technology in its social economic development”. This is further ably encapsulated in the Fifth National Development Plan that envisages “a Zambia where science and technology and innovations are the driving forces in national development by 2030”. Furthermore, the importance of research is amply espoused in the University of Zambia's 2008-2012 Strategic Plan. The Strategic Plan recognizes research as “a crucial aspect of academic life”.

There is need to create an environment that promotes research activities in the University of Zambia. The University of Zambia has hitherto no coherent research policy to regulate and guide the conduct of research at the institution. This policy is, amongst others, founded on recognition of excellence in research, quality management and research ethics, institutional collaboration and research infrastructure. The policy addresses fundamental issues such as funding for research and effective coordination of research activities at the Institution by establishing a necessary institutional research agenda anchored on the unique needs of the society it serves. The policy also recognizes the importance of commercialization of research outputs. In this regard, the policy espouses elaborate Intellectual Property guidelines aimed at promoting innovations, inventions and creative works.

This Research Policy is a culmination of an intensive and extensive consultative process and I, therefore, believe that many will identify themselves with this important document. Indeed, since the document will operate as a guide to the development of research at the institution, the dedication and commitment of all members of staff towards the realization of the collective aspirations contained in the document is paramount.

Let this research policy mark a new epoch in the conduct of research outputs and enhance the image of our cherished institution both locally and internationally; let it guide each and every researcher at the institution; let it buttress the institution's efforts to reclaim its rightful position on the world science and technology index.



Professor Stephen Simukanga  
Vice-Chancellor

## ACRONYMS

AAU	Association of African Universities
AIDS	Acquired Immuno-Deficiency Syndrome
CDT	Cotton Development Trust
CSO	Central Statistical Office
CVRI	Central Veterinary Research Institute
DRGS	Directorate of Research and Graduate Studies
GART	Golden Valley Agriculture Research Trust
GRZ	Government of the Republic of Zambia
HIV	Human immunodeficiency virus
ICT	Information, Communication and Technology
IPR	Intellectual Property Rights
IRB	Institutional Review Board
INESOR	Institute of Economic and Social Research
M & E	Monitoring and Evaluation
MoU	Memorandum of Understanding
NGO	Non-Governmental Organisation
NISIR	National Institute for Scientific and Industrial Research
PI	Principal Investigator
RAIMC	Research Audit, Implementation and Monitoring Committee
REC	Research Ethics Committee
R & D	Research and Development
SADC	Southern African Development Community
SARUA	Southern Africa Regional Universities Association
TDAU	Technology Development and Advisory Unit
TDRC	Tropical Diseases Research Centre
TQM	Total Quality Management
UNZA	University of Zambia
ZARI	Zambia Agriculture Research Institute

## **EXECUTIVE SUMMARY**

The University has been carrying out research since its inception. The research has been internally and externally supported. UNZA's Strategic Plan (2008 - 2012) recognizes the importance of research in the advancement of knowledge, provision of a repertoire of evidence-based information and facilitation of international academic collaboration.

### **Research Policy Environment**

Through sub-regional and regional co-operation, the Zambian government collaborates with other national or international and/or regional organizations and higher institutions of learning to strengthen its scientific and technological capability. Regional collaboration requires that universities and other research institutes co-operate and forge links with the industry/private sector.

### **National Context**

Zambia has attempted to create a conducive environment for research and recognizes that Research and Development (R & D) should be geared towards generation, acquisition, application and dissemination of knowledge and findings for national development. Funding for research by both Government and the private sector has, however, been limited and this has greatly contributed to the poor performance and application of Science and Technology in national development. Weak linkages between the research institutions on one hand and Government and industry on the other, is another contributing factor.

### **Networks and Partnerships**

Universities are one actor amongst many organizations contributing to the flow of knowledge and information through research. The driving force of the current trend to establish linkages, networks and partnerships with relevant research institutions, beyond the walls of the university, is to take advantage of resultant synergies and avoid system redundancy (duplication) in research. The UNZA research policy, therefore, encourages University staff to explore and innovate ways of establishing such alliances, networks and partnerships with relevant public, private and other research institutions for mutual gain.

### **Universities and Development**

Universities are crucial forces and factors that promote development. They are now more widely perceived to be key players in economic development through their research. As knowledge-producing organizations, they are back on the

development agenda with new, more differentiated roles and expectations to play than before.

## **Situation Analysis**

### **Levels of Research Activities**

The University of Zambia has, since its inception, been involved in research at various levels, that is, undergraduate, postgraduate, postdoctoral, academic, research affiliation and collaborative research.

### **Coordination**

Each of the nine Schools of the University has a School Research Committee whose main mandate is to preside over research matters of the schools. The Directorate of Research and Graduate Studies (DRGS), in conjunction with Schools and other Units, oversees and co-ordinates postgraduate research activities.

### **Research Funding**

Funding for research has not been adequate to meet the research needs of the University. The University has relied on fewer sources for funding research and these include both internal and external sources. Internal sources of funds for research include: University budget from the Ministry of Education and other ministries, non-GRZ grants, NGOs and private sector.

### **Research Infrastructure**

The research infrastructure and facilities are resources that provide essential services to the researchers for both academic and/or industrial purposes. The research infrastructure has not developed in line with the growing research needs of the University of Zambia, in particular and those of national development in general.

### **Dissemination of Findings**

The University of Zambia academic members of staff have participated in research dissemination both locally and internationally.

### **Challenges facing UNZA**

The University of Zambia has over the years been faced with several challenges that have had a negative impact on the academic programmes including research.

The factors that have given rise to the challenges include:

- (a) Lack of a well defined research agenda that is integrated with national development plans;
- (b) The changing government policy on higher education;
- (c) The declining public funding to the University;
- (d) The increasing demand for higher education and global trends towards mass higher education in line with the demands for life long- learning at this level;
- (e) Deterioration in the conditions of service for all levels of staff;
- (f) Growing competition for professional staff and skilled labour within the country and the region;
- (g) The dilapidation in the infrastructure of the University; and
- (h) Lack of physical development.

### Rationale for Policy

UNZA has not had a coherent research policy document to guide and regulate the conduct of research for academic members of staff, postgraduate and undergraduate students. Most of the research outputs have not fed into national development, enhanced teaching and curricula development in the university.

The Research policy, therefore, is motivated by, *inter alia*, the following specific factors:

- (a) Growth of research programmes;
- (b) Need to enhance internally and externally sourced funding;
- (c) Need for improved research administrative infrastructure;
- (d) Need for research regulatory framework and oversight particularly with respect to ethical requirements;
- (e) Need to improve accountability and transparency for fiscal and administrative management of research activities;
- (f) Need to accelerate the development of research that ultimately results in improved decision-making for the betterment of the living standards of many Zambians, and
- (g) Need for strong infrastructure and mechanisms to support more effective collaboration and partnerships with other universities and institutions within Zambia and abroad.

It became imperative for a coherent policy document to be developed in order to inform and guide the conduct of both locally and internationally sponsored research activities in the University. The University of Zambia has also developed its own Intellectual Property (IP) Policy. The IP Policy aims at bringing harmony to the conflicting interests of all stakeholders in the generation and commercialization of intellectual properties. The two policy documents are inherently interrelated.

## **Mission**

The mission of the Research Policy is to promote a sustainable, focused and dynamic environment that fosters efficient and effective research and contributing to social and economic development and at the same time assuring academic freedom.

## **General Objective**

The general objective of the Research Policy is to provide policy guidelines that will promote and foster the academic and managerial environment conducive for undertaking research in order to enhance the scientific, technological, social, economic and political development for the improvement of the living standards of the Zambian people and beyond.

## **Specific Objectives**

In order to attain the general objective, the policy document presents a number of specific objectives and strategies focusing on the following main areas:

- (a) Human Resource Development (HRD) Capacity Building;
- (b) Research Funding;
- (c) Management of Research;
- (d) Management of Research Funds;
- (e) Research Infrastructure;
- (f) Quality Management and Research Ethics
- (g) Data Management and Dissemination
- (h) Recognition of Excellence in Research;
- (i) Institutional Collaboration;
- (j) Postgraduate Students Research, and
- (k) Undergraduate Research

## **RESEARCH STRUCTURE**

In order to achieve the stated mission and objectives, the following institutional structures and arrangements will be provided:

### **Research Board**

#### **Functions of Research Board**

The Research Board is the highest decision-making organ of the research programmes of the University. The Board will implement the University of Zambia Strategic Plan on Research. The Board is mandated by the University Senate to:

- (a) Provide strategic research direction to the University through the development of effective research policies;
- (b) Coordinate all research activities in the University;
- (c) Monitor the allocation and administration of research funds by the DRGS so as to ensure compliance with the criteria adopted by the Board;
- (d) Spearhead resource mobilization initiatives to ensure that the Research Policy mandate is met;
- (e) Provide mechanisms of monitoring research;
- (f) Foster the development of departmental and school research programmes linked to postgraduate studies;
- (g) Ensure the preparation and production of research agenda and reports and research handbooks, and
- (h) Ensure compliance by researchers to research ethics.

### **Composition of Research Board**

The Research Board comprises the following members:

- (a) Chairperson (Vice-Chancellor / Deputy Vice Chancellor);
- (b) All Deans and Directors and the Librarian and their Assistants;
- (c) All Assistant Deans (Research);
- (d) Representative from any of the Research Ethics Committees; and
- (e) Two Representatives from any of the following: The National Institute for Industrial and Scientific Research (NISIR), National Council for Science and Technology (NCST), Public Universities, Central Statistical Office (CSO).

### **Directorate of Research and Graduate Studies (DRGS)**

The general administration of the research programmes of the University falls under the DRGS headed by a Director.

### **Functions of DRGS**

The Directorate is charged with the following responsibilities:

- (a) Co-ordinating, monitoring and organising the research and postgraduate programmes of the University;
- (b) Carry out the administration of research grants and research contracts by controlling and disbursing the research funds to the Schools and Units.
- (c) Serve as a research link between the University of Zambia and other research institutions including industry;
- (d) Administer the Research Affiliation Scheme of the University of Zambia so as to ensure that, among other things, external researchers follow correct Visa application Protocols and not come in as tourists;

- (e) Facilitate linkages between the University of Zambia and other universities within and outside the SADC region;
- (f) Facilitate linkages between the University of Zambia and political leaderships, Members of Parliament (MPs) and Government Ministries;
- (g) Maintain research records pertaining to the University's research activities; and
- (h) Allocate and administer research funds in accordance with the criteria adopted by the Research Board.

### **Structure of DRGS**

Key DRGS Research Management Staff shall be as follows:

- (a) Director;
- (b) Assistant Director-Research;
- (c) Assistant Registrar-Research, and
- (d) Any other staff that will be considered relevant such as the Intellectual Property Officer.

### **The University of Zambia Research Ethics Committees (UNZA-RECs)**

There shall be Research Ethics Committees for the University charged with the responsibility of reviewing research proposals for research ethical compliance.

### **Number of Research Ethics Committees**

All research carried out by the University of Zambia staff will be governed by the local ethical requirements. In the case of a collaborative research project involving one or more foreign institutions, ethical approval shall be sought both from UNZA where the research will be carried out and from the Institutional Review Boards (IRB) of the collaborating institutions.

### **Functions of Research Ethics Committees**

The main role of Research Ethics Committees is to review and approve research proposals and protocols dealing with human and animal participants.

### **Membership of Research Ethics Committees**

The membership of the three Research Ethics Committees is drawn from relevant associated Schools and Institutions.

### **Research Audit, Implementation and Monitoring Committee (RAIMC)**

The RAIMC will be a standing committee of the Research Board charged with the responsibility of ensuring adherence to total quality management in research.

## **School Research Committees**

Each School of the University has a School Research Committee (SRC) whose main mandate is to preside over research matters of the schools.

## **Sources of Research Funding**

There are two sources of funding research at UNZA, internal and external.

## **Management of Research Funds**

All research funds will be administered according to existing UNZA financial regulations.

## **The Intellectual Property Management Unit, IP Advisory Committee and IP Enterprise**

The University of Zambia shall create an Intellectual Property Management Unit which shall manage the Intellectual Property Rights of the University of Zambia in liaison with the Intellectual Property Advisory Committee, the University of Zambia Legal Counsel and the Intellectual Property Enterprise to be set up by the University.

## **Research Infrastructure**

The University of Zambia will strive to build and maintain a sustainable research infrastructure. The infrastructure will be defined to include buildings, office space and facilities, training centres, libraries, databases, laboratory equipment and reagents, instruments, computer hardware/ software.

## **Dissemination of Research Findings**

The University of Zambia will promote research dissemination in many ways including:

- (a) Establish mechanisms for data processing, information storage access, retrieval systems and ensure that the creative research outputs are peer reviewed, communicated and adopted;
- (b) Attendance at local and international conferences; and
- (c) Publications.

The University, through the DRGS, will also regularly hold local and international conferences where research findings will be disseminated. Dissemination of research findings shall be subject to IP protection issues before publications as stipulated in the University of Zambia IP Policy. This is aimed at enhancing the value of research findings.

## **Application of Research Findings**

The policy will promote the application of research findings to commercial ventures and consequently support the linear science and technology value adding chain of activities.

Application of research findings will also be subject to the provisions of the University of Zambia IP Policy.

## **INTELLECTUAL PROPERTY RIGHTS (IPRs)**

Any matters related to intellectual property rights arising from this research policy shall be governed by the University of Zambia Intellectual Property Rights policy. The implementation of appropriate Intellectual Property Policy will enable the University of Zambia generate significant and substantial income through:

- (i) Royalties and fees from licensed Intellectual Property rights from innovations, inventions and created works;
- (ii) Consultancy;
- (iii) Research contracts;
- (iv) University owned companies and joint ventures;
- (v) Commercialisation of R & D findings, and
- (vi) Utilisation of existing protected and unprotected Intellectual Property creations.

In order to benefit financially and otherwise from the planned endeavours, the University of Zambia recognises the need to take particular care of the interests of all the stakeholders who contribute in one way or the other in the process of innovating, creating and commercialisation of innovations, inventions created works and research findings at the University.

## 1.0 INTRODUCTION

### 1.1 Background

The University of Zambia (UNZA) is the premier tertiary educational institution in Zambia. It is the oldest of the public universities established by the Government of the Republic of Zambia (GRZ) to provide higher education in the country. Since its inception in 1966, UNZA has been expanding every year as a response to the ever-growing demand for higher education in the country. The University of Zambia is supported by the government through the Ministry of Education to fulfil a national mandate of providing high quality education and service as reflected in its motto of "Service and Excellence". The goal of the University is to effectively contribute to national development by providing skilled human resource that can foster national development. To achieve this, the University Act (1999) provides for and spells out teaching, research and service as the main functions of a public university.

The University has been carrying out research since its inception. The research has been internally and externally supported. Internally supported research is funded by resources generated within the University and these include GRZ grants, revenue from business ventures and donations. Externally supported research is funded by resources from commissioned research through MoU/agreements with local, regional and international bodies, MoU/Agreements with other universities, institutes, centres and units.

Until the late 1980s, UNZA had four fully-fledged research institutes coordinated by the Research Secretary. Due to mainly funding difficulties, three of the research institutes were abolished leaving the Institute of Economic and Social Research (INESOR), which was established in 1937. INESOR is currently the only institute mandated to conduct interdisciplinary social science research on fulltime basis. The Institute as well as Schools and other units of the university have undertaken various research projects that address issues relevant to national development. These research projects have resulted into publications of international repute and some of the research outputs into applications in the various sectors of the Zambian economy.

UNZA's Strategic Plan (2008 - 2012) recognizes the importance of research in the advancement of knowledge, provision of a repertoire of evidence-based information and facilitation of international academic collaboration.

In addition for the University to derive tangible benefits from the intellectual output of its research and to ensure sustainable research activities at the University, it is important that research income is generated from the respective research findings through technology transfer and commercialization of works, innovations and inventions. This can be achieved through the intellectual

property systems that allow for the protection, enforcement and commercialization of research findings. In this regard, this policy must be implemented in tandem with the Intellectual Property Policy document to be adopted by the University.

## 1.2 Research Policy Environment

### 1.2.1 Regional Context

The development of research in any country has both national and international perspectives, which derive from universality and dynamism of scientific and technological knowledge, irrespective of national boundaries. In this regard, the Zambian government supports and seeks co-operation with regional and international organizations and institutions in the promotion of research. Through sub-regional and regional co-operation, the Zambian government collaborates with other national or international and/or regional organizations and higher institutions of learning to strengthen her scientific and technological capability. Regional collaboration requires that universities and other research institutes co-operate and forge links with the industry/private sector. Regional collaboration also requires that universities and other research institutes allow access and jointly develop and share research facilities including costly and sophisticated scientific equipment and materials in order to maximise the use of scarce resources. The SADC Protocol on Education puts emphasis on higher education and research and the need for the region to establish linkages in its endeavour to promote regional development as provided under Articles 3, 5 and 8 of the protocol as follows:

- Member States undertake to provide the necessary resources to enable their universities to develop quality post-graduate programmes through the provision of the necessary teaching and research requisites such as qualified staff, physical infrastructures, libraries, equipment and in particular scientific and information technology equipment.
- Member States recognise that research, especially in science and technology, is expensive and that not every country can enable its institutions to develop excellent research capacity in all fields, hence the need to allow access and to jointly develop and share research facilities.
- Member States shall strengthen research capacities in their countries by allocating adequate resources to universities and research institutes to enable them to pursue socio-economic and technological research.

The Government of the Republic of Zambia recognizes UNZA as a key institution that serves as an epicentre/nucleus for academic and research linkages between Zambia and other regional institutions. UNZA also plays a strategic role in the

fulfilling the mission of African Universities of providing solution based research. As such it subscribes to the Southern African Development Community (SADC) Protocol on Education and Training and the Declaration of the Association of African Universities (AAU). UNZA is a member of Southern African Regional Universities Associations (SARUA) which deals with and promotes a number of academic areas including research.

### **1.2.2 National Context**

Zambia has attempted to create a conducive environment for research and recognizes that Research and Development (R & D) should be geared towards generation, acquisition, application and dissemination of knowledge and findings for national development. Consequently, a number of sector ministries have formulated research policies that are guided by national development priorities. The Fifth National Development Plan (FNDP) has recognized the role sector ministries play in meeting the development priorities. An analysis of the sector policies indicates that the over-arching objective of all the research policies is “to ensure that sector ministries and their research institutes conduct demand-driven, client-oriented strategic research”. In order to enhance research and development, the Zambian government, through the Ministry of Science and Technology, has come up with a Science and Technology Policy (STP). The Science and Technology Policy is intended to guide and enhance the utilization of abundant natural resources for improved quality of life for Zambians. This is achieved through liberalization and autonomisation of research institutions, promotion of partnerships and to encourage demand-driven research. Furthermore, the policy provides for linkages between research institutions and Social and Economic sectors of the economy.

In Zambia, Public Research is largely funded by government and carried out by public institutions including:

- (a) National Institute for Scientific and Industrial Research (NISIR);
- (b) Public Universities;
- (c) Tropical Diseases Research Centre (TDRC), and
- (d) Government Ministries: Agriculture and Cooperatives, Tourism Environment and Natural Resources, Mines and Minerals Development; and Health; Trusts such as: Zambia Agriculture Research Institute (ZARI), Central Veterinary Research Institute (CVRI), Golden Valley (GART) and Cotton Development(CDT).

Despite this set up, funding for research by both Government and the private sector has, however, been limited and this has greatly contributed to the poor performance and application of Science and Technology in national development. Weak linkages between the research institutions on the one hand and Government

and industry on the other, is another contributing factor. It is recognized that factors outside the Ministry of Education in general and the University of Zambia in particular, such as the state of the economy, communication level of integration and the HIV and AIDS epidemic have a profound impact on the development of teaching and research. HIV and AIDS has rapidly become the number one constraint to economic development in general and the educational sector in particular. The problem requires attention by the education sector in various ways including setting up of research priorities, dissemination of HIV and AIDS related information to staff and the introduction of HIV and AIDS in the curricula of learning institutions. The University of Zambia recognizes the devastating effects of the HIV and AIDS epidemic and has since developed an HIV and AIDS policy to guide the numerous efforts and interventions aimed at mitigating the impact on staff, students and the surrounding communities.

The government recognizes the role of the University of Zambia in national development and would like to promote a conducive research culture among staff and students. However, as already alluded to, a number of problems have retarded the effective conduct and application of research. UNZA faces challenges of infrastructure, funding, teaching loads and staff profiles that are more suited to teaching than to research. The lack of research capacity among the staff members, in particular, has been a major obstacle to progress.

### **1.2.3 Networks and Partnerships**

It is important to note that in the knowledge economy universities no longer have the monopoly of knowledge production through research to themselves. Though they undoubtedly have a crucial role to play, universities are simply one actor amongst many organizations contributing to the flow of knowledge and information through research. The driving force of the current trend to establish linkages, networks and partnerships with relevant research institutions, beyond the walls of the university, is to take advantage of resultant synergies and avoid system redundancy (duplication) in research. This research policy, therefore, encourages university staff to explore and innovate ways of establishing such alliances, networks and partnerships with relevant public, private and other research institutions for mutual gain. The University of Zambia must, in this regard, co-operate and collaborate with individuals, institutions and agencies belonging to the above mentioned categories, which share the ideals expressed in this research policy. Such research collaboration should be intensive and extensive, depending on available resources and modalities for collaborative research effort. Such collaborative research processes should adhere to the principle of reciprocity and genuine exchange between the University and other research partners, with each partner treating the other as an equal partner. The

most successful research partnerships under this policy will be based on the premise that “each has something to contribute to the welfare of the other, with resources and knowledge flowing in both directions.”

### **1.2.4 Universities and Development**

Universities are crucial forces and factors that promote development. They are also active partners and contributors to the knowledge economy. In both of these roles, research acts as a central engine to development and the knowledge economy of many countries such as Zambia. There are several reasons on why research conducted within universities has become the centre piece for development. First, knowledge generated by research facilitates a country like Zambia to become competitive in the international arena. Second, universities, through the research they conduct in communities have begun to reverse the perception that they are elite institutions, remote from the everyday concerns of society. The University of Zambia increasingly sees engagement (rather than disengagement) with societal needs as part of its core mission. Third, with the process of globalization and the growth of the knowledge economy worldwide, universities are now more widely perceived to be key players in economic development through their research. As knowledge-producing organization, they are back on the development agenda with new, more differentiated roles and expectations to play than before.

## **1.3 Situation Analysis**

### **1.3.1 Levels of Research Activities**

Research is one of the cornerstones of the University mission, which aspires to meet the needs of Zambia through excellence in teaching, research and service in order to foster sustainable development.

The University of Zambia has, since its inception, been involved in research at various levels as outlined below:

- Undergraduate
- Postgraduate
- Postdoctoral
- Academic staff
- Research Affiliation
- Collaborative Research.

Each of the nine Schools of the University has a School Research Committee whose main mandate is to preside over research matters of the Schools. The Directorate of Research and Graduate Studies (DRGS), in conjunction with

Schools and other Units, oversees and coordinates postgraduate research activities. Postgraduate research is an integral part of the university research activities governed by postgraduate studies regulations. DRGS also administers a Research Affiliations Scheme that enables researchers from outside the University and/or from outside the country to be affiliated to the University of Zambia for the purpose of conducting research. The research conducted under this scheme is governed by the appropriate research affiliations regulations.

INESOR carries out both basic (theoretical) and applied research that is either self-initiated or commissioned by Government, international organisations, non-governmental organisations (NGOs), business organisations and individuals within Zambia, Southern African Region, the African continent and beyond. In addition, INESOR carries out consultancy services in relevant research programmes including, facilitating the organisation of workshops, seminars and conferences. Very valuable research activities and outputs have taken place at UNZA.

Previously, UNZA had other research institutes but was forced to scale down due to funding problems. It is anticipated that with improved funding and evident widening of the research agenda arising out of emerging cross cutting issues such as climate change, need for renewable energy sources, problem of new infectious diseases, other research institutions will be established.

### **1.3.2 Research by Academic Staff**

Academic members of staff from all the schools and INESOR have made significant contributions to research in Zambia. In particular, INESOR, which is mandated to carry out social science research on behalf of the UNZA, has conducted research in a wide range of areas of national interest. Thus, INESOR has spearheaded research in the areas of agriculture, health, governance, economic and business, socio-cultural and urban development. INESOR has conducted pioneering applied research in the area of traditional medicine and HIV/AIDS.

Over the years, Scientists at the School of Agriculture have developed and released some crop varieties that continue to be of great importance to national food security and the food processing industry in the country. Notable among these was the release of the wheat variety Canary in the 1980's. In 2007, the School further released two heat tolerant wheat varieties UNZA WVI and UNZA WVII, which grow well in the valley areas and will allow small scale farmers to participate in wheat production.

Local pioneering research by Scientists in the Animal Science Department during the 1980s resulted in developing local formulations of diets/feed for poultry, pig, and cattle using soyabeans and other locally available alternatives. These rations have been widely adopted by the feed industry.

The School of Engineering has conducted work in low cost pumps, alternative building materials such as low cement-earth bricks, etc.

The School of Education continues to carry out pioneering work on child learning and literacy, curriculum development and Education management.

However, coordination and proper documentation of the combined research activities and outputs of the academic members of staff of the University has been a major challenge. In order to increase research, the academic staff's research output shall continue to be one of the significant factors in determining staff progression. Furthermore, the Intellectual Property Policy shall enable researchers to obtain financial benefits from any inventions/creation arising from their research. It is envisaged that the above incentives shall make research both satisfying and rewarding and will, therefore, encourage academic staff to undertake research.

### **1.3.3 Postgraduate Research**

Since early 1980s UNZA has been running postgraduate programmes. Most postgraduate programmes of the University of Zambia require students to conduct research as part of the fulfilment of their postgraduate programmes. Postgraduate research activities have contributed immensely to the amount of research conducted in the university. As of 2008, there have been over 2500 (two thousand and five hundred) candidates who have completed postgraduate studies at UNZA. Most of these students have deposited their dissertations in the University Library. Abstracts of these dissertations/theses are available electronically through databases managed by the DRGS. However, postgraduate research has not received adequate attention and use by researchers and other scholars. Furthermore, there has not been an appropriate and sustained forum for dissemination of postgraduate studies.

### **1.3.4 Research Funding**

Funding for research has not been adequate to meet the research needs of the University. The University has relied on fewer sources for funding research and these include both internal and external sources. Internal sources of funds for research include; University Budget from Ministry of Education and other ministries; non-GRZ grants, NGOs, and private sector.

In 2006, GRZ provided 500 million Kwacha to UNZA for research activities. External funding sources have included regional and international funding agencies mostly through collaborative research with foreign universities. UNZA staff are free to source external funds provided that such funds are administered by the University and the budget includes overheads.

### **1.3.5 Research Infrastructure**

The research infrastructures and facilities are resources that provide essential services to the researchers for both academic and/or industrial purposes. Research infrastructure includes buildings, office space and facilities, training centres, libraries, databases, laboratory equipments, instruments, computer networks, etc. The research infrastructure has not developed in line with the growing research needs of the University of Zambia, in particular and those of national development in general.

### **1.3.6 Information Dissemination**

The University of Zambia academic members of staff have participated in research dissemination both locally and internationally through:

- (a) Attendance at local and international conferences;
- (b) Discussions with general public and policy makers; and
- (c) Publications (UNZA supports publications in local journals, in addition to international journals).

## **1.4 Challenges Facing UNZA**

The University of Zambia has a Directorate of Research and Graduate Studies charged with coordinating all the research and postgraduate activities of the university. However, in practice, the coordination of research has not been very effective.

Consequently teaching Schools and other Units have conducted research in an uncoordinated manner resulting into a lack of clear institutional and collective research focus in the university. Furthermore, whilst there has been a lot of research going on, the lack of coordination means that it has not been possible to have a central database of all the research projects taking place throughout the entire University.

The University of Zambia has over the years been faced with several challenges that have had a negative impact on the academic programmes including research. The factors that have given rise to the challenges include:

- Lack of a well defined research agenda that is integrated with national development plans;
- The changing government policy on higher education;
- The declining public funding to the university;
- The increasing demand for higher education and global trends towards mass higher education, in line with the demands for life long- learning at this level.;

- Deterioration in the conditions of service for all levels of staff;
- Growing competition for professional staff and skilled labour within the country and the region;
- The dilapidation in the infrastructures of the university;
- Lack of physical development.

There has also been a change in the funding policy for students from the bursary system to student loans. Furthermore, the liberalization of the educational sector has led to the establishment of more private universities and colleges.

The implications of these policy measures are that allocation of more resources to the University by the government will be very unlikely. These policy measures coupled with the increasing competition between public universities and the private sector will result into a clear need for UNZA to reposition itself. UNZA needs to squarely face the growing need to raise its own funds and reduce over dependency on meagre government funding. Research offers one of the strong avenues through which UNZA can sustain its flow of funding. UNZA has a comparative advantage in this area owing to the availability of research infrastructure and competencies.

## 1.5 Rationale for Policy

In the past, research activities have not been well managed particularly with respect to coordination at the central level. Institutional mechanism for storage, retrieval and dissemination of the research outcomes are inadequate and need attention. UNZA has not had a coherent research policy document to guide and regulate the conduct of research for academic members of staff, postgraduate and undergraduate students. Most of the research outputs have not fed into national development, enhanced teaching and curricula development in the University.

The University of Zambia Research Policy has been necessitated by the requirement to coordinate the expanding research activities efficiently and effectively. The Research policy, therefore, is motivated by, *inter alia*, the following specific factors:

- Growth of research programmes;
- Need to enhance internally and externally sourced funding;
- Need for improved research administrative infrastructure;
- Need for research regulatory framework and oversight particularly with respect to ethical requirements;
- Need to improve accountability and transparency for fiscal and administrative management of research activities;
- Need to accelerate the development of research that ultimately results in improved decision-making for the betterment of the living standards of many Zambians, and

- Need for strong infrastructure and mechanisms to support more effective collaboration and partnerships with other universities and institutions within Zambia and abroad.

In view of the needs highlighted above and the deficiencies identified in Section 1.4, it became imperative for a coherent policy document to be developed in order to inform and guide the conduct of both locally and internationally sponsored research activities in the university.

The University of Zambia has also developed the University of Zambia Intellectual Property (IP) Policy. The UNZA IP Policy aims at bringing harmony to the conflicting interests of all stakeholders in the generation and commercialization of intellectual properties. The two policy documents are inherently interrelated. There is, therefore, need to ensure that the two policy documents are in consonance with each other. It is, nonetheless, noteworthy that the two policy documents will exist as distinct and independent documents.

## **2.0 VISION AND MISSION STATEMENTS**

### **2.1 Vision**

A University of Zambia that is a Centre of Excellence with internationally acclaimed research for the benefit of academic, national and regional development.

### **2.2 Mission**

To promote a sustainable, focused and dynamic environment that fosters efficient and effective research and contributing to social and economic development and at the same time assuring academic freedom.

## **3.0 POLICY OBJECTIVES**

### **3.1 General Objective**

To provide policy guidelines that will promote and foster the academic and managerial environment conducive for undertaking research in order to enhance the scientific, technological, social, economic and political development for the improvement of the living standards of the Zambian people and beyond.

## 3.2 Specific Objectives

In order to attain the general objective, the policy document presents a number of specific objectives and strategies focusing on the following main areas:

### 3.2.1 Human Resource Development(HRD) Capacity Building

#### Objective

To enhance the research capacities and competencies of the academic members.

#### Strategies

- (a) Enhance continuous training and retooling of researchers to enable them keep abreast of emerging technologies and skills.
- (b) Formalise and establish mentorship system between senior and younger faculty members;
- (c) Promote and undertake collaborative research;
- (d) Encourage and attach faculty members to public and private research institutions;
- (e) Facilitate research exchange programmes including local sabbaticals; and
- (f) Train academic members in research administration and financial management.

### 3.2.2 Research Funding

#### Objective

To source and provide adequate funding for research.

#### Strategies

- (a) Promote research proposal writing for submission to potential funding agencies;
- (b) Engage government and the private sector for research funding;
- (c) Engage regional and other international organisations for research funding, e.g., New Economic Partnership for African Development (NEPAD);
- (d) Allocate adequate funds towards research in the university budget;
- (e) Provide adequate funding for publication of research findings in local journals; and
- (f) Provide research materials (e.g., reagents).

### **3.2.3 Management of Research**

#### **Objective**

To create and ensure an effective, efficient and supportive management system for research activities.

#### **Strategies**

- (a) Establish well linked and coordinated institutional structures for supporting research (refer to attached organogram Fig. 1);
- (b) Develop adequate research administrative and financial systems for research and mechanisms through the intellectual property systems for protection of research findings; and
- (c) Develop effective mechanisms for supervision, monitoring and evaluation of research activities.

### **3.2.4 Management of Research Funds**

#### **Objective**

To provide a financial management system that will ensure fiscal accountability and transparency in line with UNZA financial regulations.

#### **Strategies**

- (a) All research funds administered according to existing UNZA financial regulations and the intellectual property policy;
- (b) Procurement of research materials and equipment shall be done following the laid down tender regulations without causing unnecessary delays; and
- (c) Research funds shall be subject to internal and external auditing.

### **3.2.5 Research Infrastructure**

#### **Objective**

To provide suitable research equipment, facilities and infrastructure;

#### **Strategies**

- (a) Re-capitalise, modernise and rationalise the use of research equipment on a regular basis;

- (b) Maintain and expand office and laboratories spaces;
- (c) Provide adequate transportation;
- (d) Provide adequate field laboratories for research subjects that require such facilities; and
- (e) Provide adequate ICT services and library facilities for research;

### **3.2.6 Quality Management and Research Ethics**

#### **Objective**

To provide Total Quality Management (TQM) system for all research activities; and build effective systems for compliance in issues related to the scientific and ethical management of research.

#### **Strategies**

- (a) Establish a research audit, implementation and monitoring systems;
- (b) Provide adequate funding to the existing research ethics committees;
- (c) Train staff in research ethics and compliance, and
- (d) Train staff in research quality control and assurance.

### **3.2.7 Data Management and Dissemination**

#### **Objectives**

- (a) To improve systems for documentation, storage and retrieval of research data;
- (b) To enhance publication and dissemination of research findings; and
- (c) To ensure data and research findings are kept confidential where appropriate.

#### **Strategies**

- (a) Create an internet based database for all research;
- (b) Establish electronic library for all research activities and outputs;
- (c) Develop a comprehensive research database on all research activities at the University;
- (d) Promote regular publication of research findings through local and international journals, books, monographs, occasional papers;
- (e) Facilitate publication of research findings through websites;
- (f) Organise research seminars for disseminating research findings in all schools and directorates;

- (g) Facilitate presentation of research papers at international seminars, conferences and symposia; and
- (h) Ensure data and research findings are protected before dissemination.

### **3.2.8 Recognition of Excellence in Research**

#### **Objective**

To recognize and reward outstanding performance in research.

#### **Strategies**

- (a) Develop objective criteria for rewarding outstanding research work; and
- (b) Identify appropriate rewards for outstanding researchers.

### **3.2.9 Institutional Collaboration**

#### **Objective**

To establish a strong mechanism for supporting effective collaboration and partnerships with other universities, other research organisations, industry, government, private sector in Zambia, within the SADC region and beyond.

#### **Strategies**

- (a) Provide guidelines for establishing and management of collaborative research;
- (b) Promote research affiliation both within and outside UNZA;
- (c) Establish and facilitate research exchange programmes for staff and students;
- (d) Place research students and academic staff in industry and other sectors; and
- (e) Provide necessary research requisites (qualified staff as well as physical and Information and Communications Technology (ICT) infrastructures.

### **3.2.10 Postgraduate Students Research**

#### **Objective**

To develop research capacities and skills among postgraduate students and integrate them into University of Zambia agenda.

## Strategies

- (a) Provide adequate research training and supervision;
- (b) Provide adequate infrastructure;
- (c) Provide adequate funding for postgraduate research; and
- (d) Promote student and staff exchange programmes within and outside UNZA.

### **3.2.11 Undergraduate Research**

#### **Objective**

To provide adequate undergraduate research training.

## Strategies

- (a) Design academic courses that incorporate research methodologies;
- (b) Promote student and staff exchange programmes;
- (c) Provide funding for students research projects;
- (d) Promote student attachments to industry; and
- (e) Provide necessary research requirements.

### **3.2.12 Intellectual Property Rights**

Any matters related to Intellectual Property Rights arising from this Research Policy shall be governed by the University of Zambia Intellectual Property Rights Policy.

## 4.0 INSTITUTIONAL RESEARCH FRAMEWORK

In order to achieve the stated vision and objectives, the following institutional structures and arrangements will be provided:

### 4.1 Research Board

#### 4.1.1 Functions of Research Board

The Research Board is the highest decision-making organ of the research programmes of the university. The Board will implement the University of Zambia Strategic Plan on Research. The Board is mandated by the University Senate to:

- (a) Provide strategic research direction to the University through the development of effective research policies;
- (b) Coordinate all research activities in the university;
- (c) Allocate and administer research funds in accordance with the criteria adopted by the Board;
- (d) Spearhead resource mobilization initiatives to ensure that the Research Policy mandate are met;
- (e) Provide mechanisms of monitoring research;
- (f) Foster the development of departmental and school research programmes linked to postgraduate studies;
- (g) Ensure the preparation and production of research agenda and reports and research handbooks, and
- (h) Ensure compliance by researchers to research ethics.

In executing the above functions, the Research Board may delegate to any committee part of its powers and functions as it may consider appropriate.

#### 4.1.2 Composition of Research Board

The Research Board comprises the following members:

- (a) Chairperson (Vice-Chancellor / Deputy Vice Chancellor);
- (b) All Deans and Directors and the Librarian and their Assistants;
- (c) All Assistant Deans (Research);
- (d) Representative from any of the Research Ethics Committees;
- (e) Two Representatives from any the following: The National Institute for Industrial and Scientific Research (NISIR), National Council for Science and Technology, Public Universities, Central Statistical Office (CSO);

- (f) At least two (2) Permanent Secretaries from any of the following:  
Ministries:- Finance & National Planning, Mines; Agriculture & Cooperatives; Energy and Water Development; Health; Tourism Environment and Natural Resources, and Commerce Trade & Industry;
- (g) Director DRGS will work as Secretary of the Board, and
- (h) Representative(s) of any Professional bodies and parastatals as the Board may determine from time to time.

## **4.2 Directorate of Research and Graduate Studies (DRGS)**

The general administration of the research programmes of the University falls under the DRGS headed by a Director.

### **4.2.1 Functions of DRGS**

The directorate is charged with the responsibility for:

- (a) Coordinating, monitoring and organising the research and postgraduate programmes of the university;
- (b) Carry out the administration of research grants and research contracts by controlling and disbursing the research funds to the schools and units.
- (c) Serve as a research link between the University of Zambia and other research institutions including industry;
- (d) Administer the Research Affiliation Scheme of the University of Zambia so as to ensure that, among other things, external researchers follow correct Visa application Protocols and not come in as tourists;
- (e) Facilitate linkages between the University of Zambia and other universities within and outside the SADC region; facilitate linkages between the University of Zambia and political leaderships, Members of Parliament (MPs) and Government Ministries, and
- (g) Maintain research records pertaining to the University's research activities.

### **4.2.2 Research Structure of DRGS**

Key DRGS Research Management Staff shall be as follows:

- (a) Director;
- (b) Assistant Director Research;
- (c) Assistant Registrar-Research; and
- (d) Any other staff that will be considered relevant such as the Intellectual Property Officer.

## **4.3 The University of Zambia Research Ethics Committees (UNZA-RECs)**

There shall be Research Ethics Committees for the University charged with the responsibility of reviewing research proposal for research ethical compliance. The Research Ethics Committees' mandate will not be restricted to the University of Zambia researchers but will also cover collaborative research with other institutions. Refer to Appendix 2 for Ethical Requirements and Standards for Research.

### **4.3.1 Number of Research Ethics Committees**

The number of committees shall be based on the levels of research activities and the cluster of disciplines. All research carried out by the University of Zambia staff, will also be governed by the local ethical requirements. In the case of a collaborative research project involving one or more foreign institutions, ethical approval shall be sought both from UNZA where the research will be carried out and from the Institutional Review Boards (IRB) of the collaborating institutions.

As a start the University of Zambia has three Research Ethics Committees as follows:

- (a) Biomedical Research Ethics Committee;
- (b) Natural and Applied Sciences Research Ethics Committee; and
- (c) Humanities and Social Sciences Research Ethics Committee.

### **4.3.2 Functions of Research Ethics Committees**

The main role of a Research Ethics Committees is to review and approve research proposals and protocols dealing with human and animal participants. The specific functions of the Research Ethics Committees are:

- (a) Review and approve all research proposals and protocols that deal with human and animal participants;
- (b) Enforce high ethical standards on research done on human and animal participants;
- (c) Protect the interests of researchers who are conducting research following the approved protocols/proposals;
- (d) Monitor approved research project to ensure ethical compliance;
- (e) Participate in the training and/or sensitization of staff and students in research ethics; and
- (f) Report to the Research Board, through the DRGS.

### **4.3.3 Membership of Research Ethics Committees:**

The membership of the three Research Ethics Committees is given below:

Biomedical Research Ethics Committee comprise of representatives from;

- School of Medicine
- University Teaching Hospital
- School of Veterinary Medicine/ School of Agricultural Sciences
- INESOR/ NISIR
- Ministry of Health
- Ministry of Agriculture
- Legal Council, University of Zambia
- Religious Leader
- General Public/Civil Society
- Directorate of Research and Graduate Studies.

Natural and Applied Sciences Research Ethics Committee shall include representatives from:

- School of Natural Sciences
- School of Medicine
- School of Engineering
- School of Agriculture
- School of Mines
- INESOR
- Zambia Agriculture Research Institute
- Legal Counsel, University of Zambia
- Religious Leader
- General Public/Civil Society
- Directorate of Research and Graduate Studies.

Humanities and Social Sciences Research Ethics Committee comprise representatives from:

- School of Humanities and Sciences
  - School of Education
  - School of Medicine
  - School of Law
  - INESOR
  - Religious Leader
- General Public/Civil Society  
Directorate of Research and Graduate Studies.

Each committee shall have a Chairperson and a Secretary each appointed by the Vice-Chancellor on the recommendation of the committee for a period of two years, renewable for another two years.

## **4.4 Research Audit, Implementation and Monitoring Committee (RAIMC)**

The RAIMC will be a standing committee of the Research Board charged with the responsibility to perform specified functions as detailed below.

### **4.4.1 Functions of RAIMC**

The RAIMC will be responsible for:

- (a) Ensuring consistence in the research activities of the university;
- (b) Adherence to research methodology;
- (c) Ensuring correct use of research resources;
- (d) Compliance to good research standards;
- (e) Enforcement of quality control;
- (f) Ensuring that research progress is constantly reported; and
- (g) Ensuring that student supervisors do their work of supervision as per UNZA Regulations.

### **4.4.2 Composition of RAIMC**

The Research Board will determine the composition of the committee and shall appoint the members.

## **4.5 Institute of Economic and Social Research (INESOR)**

The Institute is an interdisciplinary social science research wing of the University of Zambia mandated to carry out research on full time basis. Although it was established with a main focus towards anthropological and historical studies, it has over the years shifted its attention to focus more on applied research that is relevant to national development by expanding its research programmes.

### **4.5.1 Functions of INESOR**

The main functions of INESOR will include:

- (a) Carry out both basic and applied research;
- (b) Carry out consultancy services, and
- (c) Facilitation of interdisciplinary workshops, seminars and conferences.

#### **4.5.2 Structure of INESOR**

- (a) Research Board of Senate
- (b) INESOR Board of Research Programme
- (c) INESOR Research Advisory Committee

INESOR is headed by a Director who superintends over the academic, administrative and technical affairs of the institute. The Director, assisted by an Assistant, will be responsible for coordinating the implementation of research programmes/projects and consultancy services.

### **4.6 School Research Committees**

#### **4.6.1 Functions of School Research Committees**

Each School of the university has a School Research Committee (SRC) whose main mandate is to preside over research matters of the school. The specific functions of the School Research Committee include:

- (a) Coordinate the implementation of the University Research Policy in the School;
- (b) Facilitate the formulation of the research agenda and the research programmes of the School;
- (c) Evaluate research proposals from the members of staff in the School;
- (d) Support any efforts towards mobilization of financial resources for research in the School;
- (e) Provide an interface between the faculty and the Research Board, and
- (f) Promote information exchange within the Schools such as holding of seminars and conferences in the Schools.

#### **4.6.2 Composition of School Research Committee**

The School Research Committee shall include the following:

- (a) Dean
- (b) Assistant Dean (Research);
- (c) Assistant Dean (Postgraduate);
- (d) Assistant Dean (Undergraduate);
- (e) All Heads of Departments;
- (f) Assistant Registrar of the School (Secretary), and
- (g) One Member of staff nominated from each Department.

### **4.6.3 Assistant Dean-Research**

In an effort to promote research and facilitate the coordination and report of research activities, the University of Zambia established the position of Assistant Deans for Research in all the Schools. The Assistant Deans for Research are responsible for:

- (a) Implementing the University Policy on Research in the school;
- (b) Developing and coordinating the School research agenda;
- (c) Serving as secretariat of the Unit/Research Committee;
- (d) Ensuring that quality control in research (e.g. subjecting new research to critical review, conforming to accepted research philosophy and ethics);
- (e) In liaison with the DRGS, mobilization of financial resources for research in the School;
- (f) Compiling reports on research activities in the School as requested by the Research Committee of the School and the Research Board;
- (g) Promoting and facilitating Research Affiliations activities in the School in collaboration with the Research Affiliations Officer in the DRGS;
- (h) Facilitation of research seminars in the School;
- (i) Carrying out any other responsibilities the Board of Research and the Dean/Director may delegate to him/her; and
- (j) Ensuring that research records are maintained in accessible soft or hard copy formats.

## **4.7 Research Funding**

Research funding goes hand in hand with the delivery of research outputs, leading to an increase in publishing activity. There are two sources of funding research at UNZA, that is, internal and external funding. Refer to Fig. 2 for the funding arrangements.

### **4.7.1 Internal Research Funding**

The University shall make available requisite adequate resources to enable the carrying out of its research agenda. Research Funds shall normally be available to researchers through a competitive process outlined by UNZA. Schools shall open separate research accounts to administer research funds.

### **4.7.2 External Research Funding**

The external sources of funding research will include:

- (a) GRZ through the Ministry of Education;
- (b) GRZ through ministries other than the Ministry of Education;

- (c) Non-GRZ grants, NGO, Private Sector;
- (d) Regional and international funding, and
- (e) Royalty disbursement as stipulated in the University of Zambia IP Policy

#### **4.7.3 Management of Research Funds**

- (a) All research funds will be administered according to existing UNZA financial regulations;
- (b) Procurement of research material and equipment shall be done following the laid down tender regulations;
- (c) Research funds shall be utilized according to the budget and activity based;
- (d) Research funds shall be subject to internal and external auditing.

Research funds coming from outside the University of Zambia usually have specific conditions attached to them. These specific conditions need to be clearly spelt out in the contract or Memorandum of Understanding (MoU). Typically, the contents of the MoU include:

- (a) Research budget;
- (b) Overheads for administrative and other logistical costs;
- (c) Issues pertaining to Intellectual Property Rights;
- (d) Infrastructural development and training;
- (e) Publication of the research materials.

UNZA staff are free to source external funds provided that such funds are administered by the University and the budget includes overhead.

#### **4.8 The Intellectual Property Management Unit, Advisory Committee and Enterprises**

The University of Zambia shall create an Intellectual Property Management Unit which shall manage the Intellectual Property Rights of the University of Zambia in liaison with the Intellectual Property Advisory Committee, the University of Zambia Legal Counsel and the Intellectual Property Enterprise to be set up by the University. The structure and functions of the Management Unit, the Advisory committee and the IP enterprise shall be outlined in the University of Zambia IP Policy. For details on the Intellectual Property Enterprises refer to the University of Zambia Intellectual Property Rights Policy, Annex 1.

## 4.9 Research Infrastructure

The research infrastructures and facilities are resources that provide essential services to the researchers for both academic and/or industrial purposes. The University of Zambia will strive to build and maintain a sustainable research infrastructure. The infrastructure is defined to include buildings, office space and facilities, training centres, libraries, databases, laboratory equipment, instruments, computer networks, etc. The Research Policy will facilitate the following activities aimed at building and sustaining the research infrastructure:

- (a) Investment in research infrastructure bearing in mind that decisions to fund infrastructural development need to be made in a collaborative manner owing to significant cost involved;
- (b) Support consensus building on a wide range of research objectives, strategies and priorities as conceived by individual schools/units of the university;
- (c) Rapid response to the on-going technological changes.

## 4.10 Dissemination of Research Findings

Dissemination of research findings is a vital component of research activities. The University of Zambia will promote research dissemination in many ways including:

- (a) Establish mechanisms for data processing, information storage access, retrieval systems and ensure that the creative research outputs are peer reviewed, communicated and adopted;
- (b) Attendance at local and international conferences; and
- (c) Publications.

The University of Zambia shall endeavour to promote dissemination of results of research carried out under its auspices through the university supported publications and local and international journals. In this regard, the university shall continue to support its journals. In addition, the university shall support efforts to start new publications in the fields and disciplines that are not covered by the current stock of journals. The highest standards of academic publication will be promoted and upheld in order to attract international scholarly articles and readership.

The University, through the DRGS, will also regularly hold local and international conferences where research findings are disseminated. Dissemination of research findings shall be subject to IP protection issues before publications as stipulated in the University of Zambia IP Policy. This is aimed at enhancing the value of research findings.

## 4.11 Application of Research Findings

The policy will promote the application of research findings to commercial ventures and consequently to support value adding activities so as to close the linear value adding gap in science and technology through:

- (a) Intellectual Property Protection;
- (b) Technology development;
- (c) Product development;
- (d) Process development; and
- (e) Commercialization.

Application of research findings will also be subject to the provisions of the University of Zambia IP Policy.

## 4.12 Implementation of the Research Policy

Implementation of the University of Zambia Research Policy shall be anchored on the organisation's structure as presented in Figure 1 organogram . This organogram is aimed at fostering efficiency and effectiveness in the implementation of the Policy.

## 5.0 REFERENCES

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- Ministry of Health, *National Health Research Policy*, Lusaka
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- MSTVT, *National Policy on Science and Technology*, Lusaka (1996)
- INESOR, *Annual Report*, 2005
- GRZ, *University Act*, 1999 (No. 11 of 1999)
- UNZA, *Research Ethics Standard Operating Procedures*, (2007)
- SADC, *Protocol on Education and Training*, 1997
- SARUA, *Strategic Implementation Plan-2007-2012* (2007)

## APPENDICES

### APPENDIX 1: Definitions and Abbreviations

#### Research

The University recognizes that 'research' includes a number of activities that share the property of being innovative. Research includes:

- Basic research which is experimental or theoretical and aims at acquiring new knowledge or offering new interpretations;
- Strategic research which is potentially applied but is in an area where the eventual applications are not clearly specifiable at the time;
- Applied research which is work undertaken to acquire new knowledge and is directly aimed at practical and applicable objectives;
- Near-market research which is innovative work aimed at generating or partially generating a specific product, artefact or idea for the commercial market;
- Creative work, particularly in the arts and applied subjects;
- Advanced pedagogic research of the type acceptable in national assessment exercises, including innovative research into teaching methodology and development of curriculum.

#### Grant

A research grant is financial support for an individual(s) or a group or a research centre/institute conducting research in a particular subject area or field, without any formal detailed stipulations as to the direction of such research.

### APPENDIX 2: Ethical Requirements and Standards for Research

The integrity of any research depends not only on its scientific rigour but also on its ethical adequacy. Ethical issues are many and varied, and may be quite complex. All research involving human subjects or participants should be conducted in accordance with the three ethical principles of *respect for persons*, *beneficence* and *justice*. Since Zambia is part of the international research community, all research must strictly abide by the International Ethical Guidelines for research involving human participants. Therefore, emphasis must be placed on informed consent, equitable distribution of burdens and benefits and safeguarding confidentiality.

Consideration of risks versus benefits needs to be weighed up by researchers. In medical research physically invasive procedures are easily defined, but what constitutes risk in social research is sometimes less clear-cut. Questionnaires, observations and interviews can all be potentially intrusive and provoke anxiety in participants, or worse involve psychological risk. Some participants are unable to give informed consent and are therefore less able to protect themselves.

The following will guide staff undertaking research involving human participants and vertebrate animals. These guides are not exhaustive and may not address all situations. Researchers should seek further advice from the Research Ethics Committee.

## **1. Human Participants**

- No research should cause harm, and preferably it should benefit participants. Potential risks to participants which might arise in the course of the research should be identified. Procedures must be justified, benefits clearly stated and researchers should sensitively and appropriately handle any cultural/religious/gender or other difference in research population at all stages.
- Research procedures should be explained on an information sheet written in simple language that is easily comprehensible by the potential research participant.
- Participant should be free from coercion of any kind and should not be pressured to participate in study.
- Participants in a research study have the right to give their informed consent before participating. It is the researcher's responsibility to seek ongoing consent during the course of study. And where third parties e.g. spouses, teachers, and health care professionals are affected by the research, informed consent should be obtained.
- Honesty should be central to the relationship between the researcher, participant and institutional representatives. If deception is necessary, the reasons should be explained to participants after the study.
- Participants' confidentiality and anonymity should be maintained (except if subpoenaed by a court).
- Researchers have a duty to disseminate their research findings to all appropriate parties.

## **2. Vertebrate Animals**

The use of animals is essential to teaching and research. Without the use of animals, adequate instruction of students in many programmes such as agriculture, biological sciences, and veterinary medicine would be impossible. Those using animals in research are morally and legally obligated to care for them properly and treat them in a humane manner.

- Animals should be used in research only as required to obtain new information, and achieve results, which will ultimately benefit society.
- The term 'animals' in the research context includes embryos and as such must conform to relevant statutes.

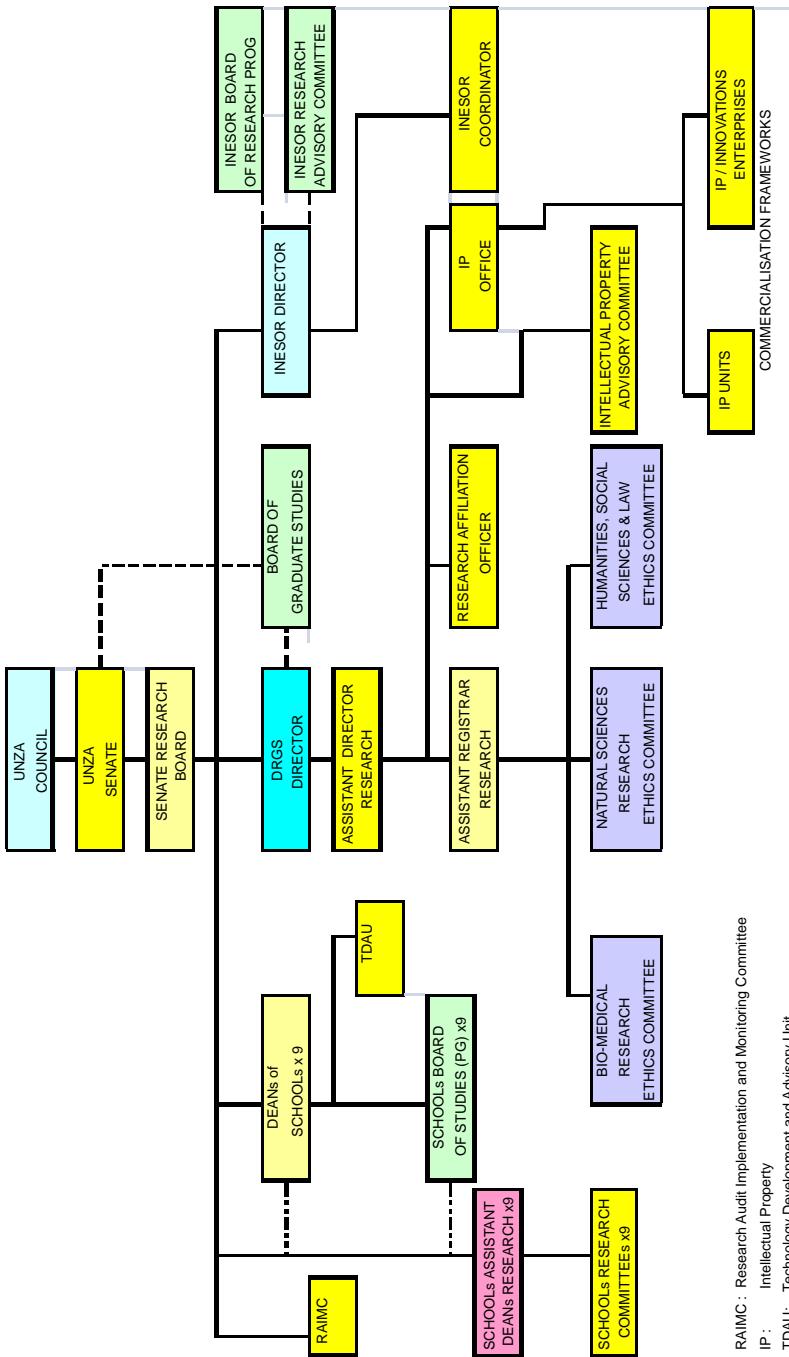
### **3. Health and Safety in Research**

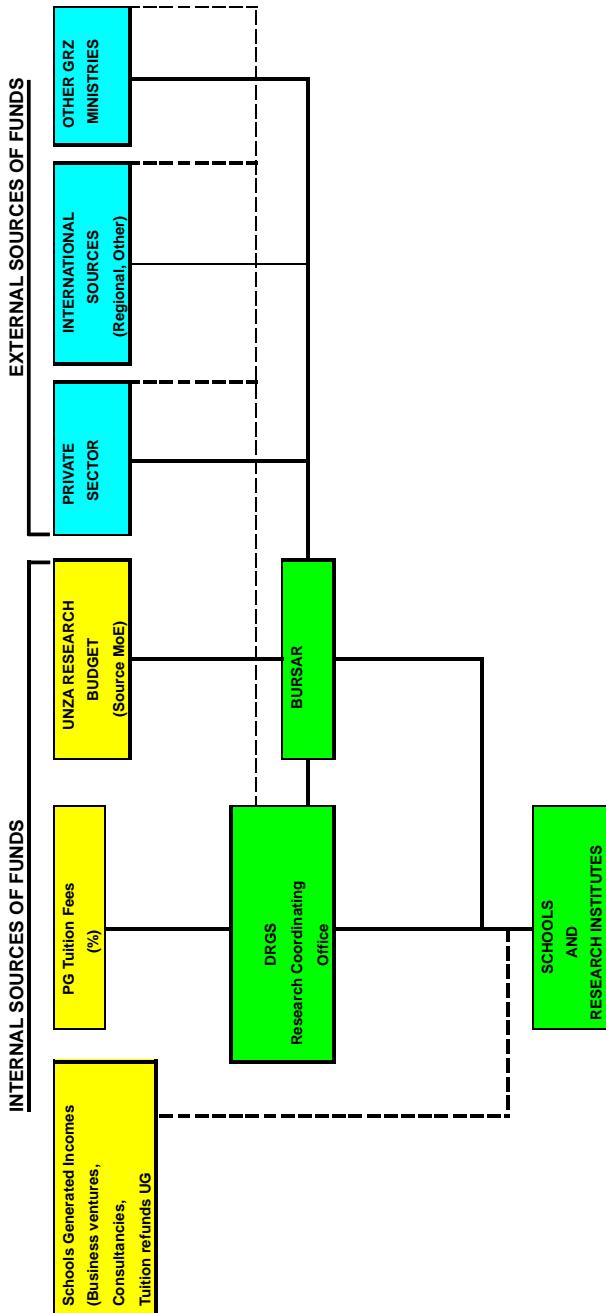
Staff are entitled to a safe and healthful place in which to do research free from hazards which may cause serious injury or death.

Researchers must be responsible and take the initiative to become informed concerning exposure to toxic and hazardous materials and to ascertain that all persons involved receive proper handling techniques and emergency procedures.

### **4. Misconduct in Research**

Issues of misconduct in Research should be brought to the attention of the Research Ethics Committee for the purpose of investigating allegations of misconduct committed during the conduct of university research by any member.

**FIGURE 1. ORGANOGRAM FOR UNZA RESEARCH POLICY IMPLEMENTATION**

**FIGURE 2. SOURCES AND FLOW OF FUNDING FOR RESEARCH AT UNZA**

**ANNEX 1:**

**UNIVERSITY OF ZAMBIA INTELLECTUAL  
PROPERTY POLICY (UNZAIPP)**

## CONTENTS

<b>1.0</b>	<b>INTRODUCTION</b>	35
1.2	Rationale for the University of Zambia Intellectual Policy	35
1.3	Objectives of the University of Zambia Intellectual Property Policy	38
1.3.1	General Objectives of the IPP of the University of Zambia	38
1.3.2	Specific Objectives of the IPP	39
1.4	Issues addressed in the IPP	40
<b>2.0</b>	<b>SCOPE OF THE INTELLECTUAL PROPERTY POLICY</b>	41
2.1	Scope of IPPRs covered under the Policy	41
2.1.1.1	Patent	41
2.1.1.2	Industrial Designs	42
2.1.1.3	Trademark	42
2.1.1.4	Utility	43
2.1.1.5	Copyrights	43
2.1.1.6	Trade Secrets	45
2.1.1.7	Know how	45
2.1.1.8	New Plant Varieties	46
2.1.1.9	Electronic Commerce	46
2.1.1.10	Expression of Folklore	47
2.1.1.11	Integrated Circuits	49
2.1.1.12	Protection Against Unfair Competition	49
2.1.1.13	Geographical Indications	50
<b>3.0</b>	<b>OWNERSHIP OF IPRs</b>	52
3.1.1	Ownership by a Financial Sponsor	52
3.1.2	Ownership by Individual staff	52
<b>4.0</b>	<b>OWNERSHIP OF EQUIPMENT</b>	54
<b>5.0</b>	<b>RESOURCES</b>	54
5.1.1	Use of the Library	54

<b>6.0</b>	<b>IMPORTANT AGREEMENT</b>	54
6.1.1	Participation Agreement	55
6.1.2	Material Transfer Agreement	55
6.1.3	Confidentiality Agreement	55
<b>7.0</b>	<b>PUBLICATION, THESES AND DISSERTATIONS</b>	56
<b>8.0</b>	<b>WHERE THE INVENTOR OPTS TO COMMERCIALLY EXPLOIT AN INVENTION</b>	56
<b>9.0</b>	<b>POLICY IMPLEMENTATION</b>	56
9.1	Overall Implementation Office	56
9.1.1	The Intellectual Property Advisory Committee	56
<b>10.0</b>	<b>CREATION OF THE INTELLECTUAL PROPERTY MANAGEMENT UNIT</b>	57
10.1.1	Functions of the Intellectual Property Management Unit	57
<b>11.0</b>	<b>HANDLING OF A DISCLOSURE</b>	58
11.2	Importance of Disclosure of Invention	59
11.3	Premature Disclosure	59
11.4	Obligations of the University of Zambia during and after an invention or creation disclosure	60
11.5	Obligations of inventors or creators during and after Disclosure of inventions/creations	60
11.6	Confidential Disclosure Agreement (CDA)	61
<b>12.0</b>	<b>MARKET EVALUATION LICENSING AND ASSIGNMENT OF IPRS AND REVENUE DISTRIBUTION</b>	62
12.1	Market Evaluation Licensing and Assignment of IPRs	62
12.2	Revenue Distribution from Commercialised Intellectual Property Rights	62
12.3	Equity Shares	63

## 1.0 INTRODUCTION

**1.1** The University of Zambia Intellectual Property Policy is part of the overall University of Zambia Research Policy. It shall provide harmony to the competing interest of all the stakeholders in the generation, creation, commercialisation and enforcement of an Intellectual Property Rights (IPRs). The University of Zambia is endowed with well-trained and qualified personnel as well as specialised laboratories, equipment and field stations. Several IP protectable and commercialisable research products have already been generated within the University, however, there is no policy in place which would help to harness these resources and potential to generate funds and enable the University of Zambia realise its motto, vision, mission and objectives.

## 1.2 Rationale for the University of Zambia Intellectual Property Policy

1.2.1 The implementation of appropriate IPP will enable the University of Zambia generate significant and substantial income through:

- (i) Royalties and fees from licensed Intellectual Property Rights (IPRs) from innovations, inventions and created works;
- (ii) Consultancy;
- (iii) Research contracts;
- (iv) Commercialisation of R & D findings and
- (v) Utilisation of existing protected and unprotected IP creations.

1.2.2 In order to benefit financially and otherwise from the planned endeavours, the University of Zambia recognises the need to take particular care of the interests of all the stakeholders who contribute in one way or the other in the process of innovating, creating and commercialisation of innovations, inventions, created works and research findings at the University. These stakeholders include:

- (i) The inventor or creator of works;
- (ii) Support staff and students of the University;
- (iii) The University of Zambia itself;
- (iv) The inventor or creator of works Department;
- (v) Visiting researchers;

- (vi) Sponsors (who include industry and donors);
  - (vii) The Intellectual Property Management Unit (IPMU);
  - (viii) The Licensee/Licensor;
  - (ix) Collaborating Institutions and
  - (x) Members of the public (society).
- 1.2.3 The inventor or creator or works is a major stakeholder in the process of innovation and creation of works and commercialisation of IPRs due to the following:
- (i) Intellectual input;
  - (ii) Conceptualisation of an idea and/or
  - (iii) Investment in terms of time, effort, labour and capital.
- 1.2.4 The University of Zambia is a stakeholder in protected and/or commercialised IPRs particularly because the University:
- (i) Provides the infrastructure for the researcher, inventor or creator of works to operate in;
  - (ii) Pays the innovator, creators of works and researcher their emoluments such as the salary;
  - (iii) Provides direct and indirect financial support for innovation and research;
  - (iv) Provides the good will in the name of the University and through this policy document, and
  - (v) Provides an enabling environment for research, innovation and creativity.
- 1.2.5 The University of Zambia will establish a unit to be called Intellectual Property Management Unit (IPMU) with required expertise to scout, identify processes and initiate and promote innovation, commercialisation of IPRs and take necessary steps and actions to enforce against infringements of IPRs owned by the University. The IPMU will be under the Office of the Deputy Vice-Chancellor and the unit currently, responsible for research (in the Directorate of Research and Graduate Studies (DRGS)).
- 1.2.6 The University of Zambia shall also establish an independent dispute settlement Board to hear and adjudicate over internal disputes over ownership and other related disputes.
- 1.2.7 The University of Zambia also recognises the authority of the competent authorities, courts, arbitral tribunals and like bodies in the settlement of IP disputes.

- 1.2.8 Where the researcher or creator of works makes the initial contact with a sponsoring agency regarding a potential research collaboration, consultancy, contact and research, it is important that the researchers are aware of the key points to be addressed during negotiation. Proper understanding of the UNZAIPP will be helpful. For detailed and final negotiation of contracts the researcher or creator of works shall refer the transaction to the IPMU. It is important to note that the researcher or creator of works will play a role during any negotiations.
- 1.2.9 The University of Zambia shall reward individuals (staff) for inventing and creating and protecting their creations. The criteria will be spelt out in the appropriate University document governing promotion.
- 1.2.10 Where support staff/students are involved in the process of innovation, invention or creation of works, they shall also be considered for financial rewards and other recognition given to the Inventor or creator of works.
- 1.2.11 Royalty will be distributed to staff, students and support staff as set out in a prior agreement approved by the University. The IPMU will manage the distribution of the said Royalties.
- 1.2.12 The University of Zambia personnel through the IPMU shall seek preliminary application for IP protection for potential innovations and creations and research findings to guard against “premature disclosure” which may compromise protection and commercial exploitation of an invention or created works.
- 1.2.13 The University of Zambia shall consider an IP application, which has been examined and approved by the relevant National Intellectual Property Office, as equivalent to a publication in the relevant journal for purposes of promoting the IPRs protected by the University.
- 1.2.14 As a way of educating and raising awareness of students on IP and related issues, information on the same shall be included in the student guide and curriculum. Students shall be encouraged to seek more information on IP from the relevant personnel and from the IPMU. The IPMU will also organise talks for students' awareness workshops and seminars for University staff, students and members of the general public.
- 1.2.15 An industry may provide employment to the University staff, researchers, creators of works and students who are involved in the development of an invention, innovation or creation with a commercial potential, in which case industry may get the University of Zambia technology free of charge. The IPP will guard against such eventuality.

- 1.2.16 Occasionally the University of Zambia staff get contract research from third parties. The sponsor who has paid for a contract research may expect ownership of the IP generated or/and unrestricted utilisation of the knowledge acquired. The IPP will resolve any disputes that may arise in this area.
- 1.2.17 Created works, innovations and inventions developed at the University of Zambia may eventually be purchased by or licensed to industries for exploitation either locally or internationally. The IPP will, thus, regulate the process of licensing.
- 1.2.18 The Zambian Government provides funds for infrastructure, research and the operations of the University, it follows, therefore, that any works created, inventions, innovations and research findings, arising from the University of Zambia activities would be used for the development of the country and that no useful inventions would kept unutilised, through unfair monopoly of ownership rights. The IPP will govern this issue.
- 1.2.19 IPU shall receive invention and creation disclosures, undertaken search for novelty of the invention, pay the cost of processing IP applications, market the invention, innovation or created work and negotiate the licenses and royalties. The office shall also set up a technical information centre and collect technical documentation of indigenous IP information as well as information needed to commercialise inventions and created works.

### **1.3 Objectives of the University of Zambia Intellectual Property Policy (IPP)**

#### **1.3.1 General Objectives of the IPP of the University of Zambia**

The general objectives of the IPP shall be to:

- (i) Promote the progress of science, arts and technology;
- (ii) Govern the management of IPP generated at the institution;
- (iii) Ensure that discoveries, inventions and creations generated by the staff and students of the University of Zambia or jointly with counterpart collaborating researchers from other institutions are utilised in ways most likely to benefit the University, the general public and motivate further research and development at the University and the country as a whole.

### 1.3.2 Specific Objectives of the IPP

Notwithstanding the generality of Clause 1.3.1 above, the University of Zambia IPP is aimed at achieving the following specific objectives:

- (i) To promote science and technology through academic programmes and services;
- (ii) To participate fully in the promotion of culture and develop individuals who are responsive to the needs and well being of others;
- (iii) To offer a range of opportunities for education and training and
- (iv) To ensure and administer resources to achieve the above objectives efficiently;
- (v) Promoting creativity and innovation;
- (vi) Creating an enabling environment that encourages creation, generation and expedites the dissemination and application for the new knowledge by the University of Zambia researchers for old and benefit of the University and the public through efficient and timely processing of technology application, transfer and utilisation;
- (vii) To protect the traditional rights of scholars to benefit from the products of their scholarly work;
- (viii) To ensure that the commercial results, financial, or otherwise, are distributed in a fair and equitable manner that recognises both the contributions of the inventor, innovator and creator of works and the University as well as other stakeholders.
- (ix) To promote, preserve, encourage and aid scientific investigation and research;
- (x) To establish standards for determining the rights and obligations of the University of Zambia, inventor or creator of works or innovation and other stakeholders with respect to inventions, discoveries and works created at the University;
- (xi) To encourage and reward the University staff who innovate, invent and create IPRs;
- (xii) To ensure compliance with applicable national laws and regulations;
- (xiii) To put in place standards for technology; and
- (xiv) To sensitise students on IP and tap creativity among the youth as

well as all others in view of the objective to provide inclusive long life education to members of the public.

## 1.4 Issues addressed in the IPP

### 1.4.1 The University of Zambia IPP addresses the following issues:

- (i) Scope of Intellectual Property Rights (IPRs);
- (ii) Ownership of an IPRs;
- (iii) Disclosure of an IP;
- (iv) Marketing, commercialisation, assigning and licensing of IPRs;
- (v) Distribution of income and royalties;
- (vi) Rights and obligations of the University staff, *vis-à-vis*, sponsors, creators of works and inventors;
- (vii) Contract research;
- (viii) Consultancy services provided by University staff and other outside activities;
- (ix) Collaborative research and R & D;
- (x) Adjudication of IP and related disputes and
- (xi) Protection and enforcement of IPRs

## **2.0 SCOPE OF THE INTELLECTUAL PROPERTY POLICY (IPP)**

### **2.1 Scope of IPRS covered under the Policy**

**2.1.1** The Scope of the University of Zambia Intellectual Property Policy shall be broad, comprehensive and holistic in approach and shall include:

- (i) Patents;
- (ii) Industrial designs;
- (iii) Trade marks;
- (iv) Utility models;
- (v) Copyrights;
- (vi) Trade secrets;
- (vii) Know-how;
- (viii) New plant varieties;
- (ix) Electronic commerce (e-commerce)
- (x) Expressions of folklore and traditional knowledge;
- (xi) Integrated circuits;
- (xii) Protection against unfair competition and
- (xiii) Geographical indications;

#### **2.1.1.1 Patent**

- (i) A patent is an exclusive right granted for an invention, for a product or a process that provides a new way of doing something, or offers a new innovative and useful technical solution to a problem in industry. In Zambia, a patent provides protection for the invention to the owner for the patent for a period of 16 years under the Patent Act Cap 400 of the Laws of Zambia.
- (ii) Patent protection means that the invention cannot be commercially made, used, distributed or sold without the patent owners' consent. These patent rights are usually enforced in a court of law, which holds the power to stop patent infringement through enforceable Court Orders;
- (iii) A patent owner has the right to decide who may or may not use the patented invention for the period in which the invention is protected. The patent owner may give permission to, or license other parties to use the invention on mutually agreed terms. The owner may also assign the right in the invention to other persons, who may then become the new owner of the patent;

- (iv) Once a patent expires, the protection ends, and an invention enters the public domain, that is, the owner no longer holds exclusive rights to the invention and the invention becomes available for commercial exploitation by others free of charge. However, patent information, while patent protection subsists, may be used for teaching or further research without being considered as infringement.

### **2.1.1.2 Industrial Designs**

- (i) An industrial design is the ornamental or aesthetic aspect of an article. The design may be the shape, the patterns, lines or colour of an article. Industrial designs are applied to a wide variety of products of industry, handcraft, technical, medical, house ware, electrical and architectural drawings. Industrial designs are what make an article attractive and appealing, hence they add to the commercial value of a product and increase its marketability.
- (ii) Registered designs are protected under the Zambian Law Pursuant to the Registered Designs Act, Cap 402 of the Laws of Zambia. Protection gives the owner copyright in the design and the exclusive right against unauthorised copying or imitation of the design by third parties. The duration of protection is generally five years, renewable twice for further periods of five years each.

### **2.1.1.3 Trademark**

- (i) A Trademark is a distinctive sign, which identifies and distinguishes certain goods or services as those produced or provided by a specific person or entity. The system helps consumers identify and purchase a product or service because its nature and quality, indicated by its unique trademark, meets their needs.
- In Zambia, the Trademarks Act, Cap 401 protects trademarks for goods and unfortunately the Trademarks Act does not provide for service marks. A trademark provides protection to the owner of the mark by ensuring the exclusive right to use the mark or sign on its products in order to identify and distinguish goods or services, or to authorise another to use it in return for payment under provisions that relate to registered users under the Trademarks Act.

The Trademarks Act provides for protection for a period of seven years to be renewed from time to time. Trademark protection is enforced by the courts, which have the power to stop trademark infringement through remedies such as injunctions and destruction of infringing products. Trademarks promote initiative and enterprise by rewarding the owners with recognition and financial profit. Trademark protection also hinders the efforts of unfair competitors, such as counterfeiters, imitation goods that use similar distinctive signs to market inferior or different products or services. For the University of Zambia, a trademark will be important as the University strengthens its income generating enterprises, through sales of goods and services produced by the University of Zambia.

#### **2.1.1.4 Utility Models**

- (i) In general terms a utility model or petty patents is an invention which does not meet all the requirement patentability in order to obtain patent protection in that it does not involve an inventive step or it is not novel but has an industrial use. In Zambia, there is no Law that provides for the protection of utility models. The University of Zambia will, therefore, need to lobby for the enactment of a law that would make provision for utility models because utility model's primary objective is to encourage the rapid evolution of, indigenous innovativeness, particularly in small and medium scale enterprises as well as the informal sector.

#### **2.1.1.5 Copyrights**

- (i) Copyright is a legal term describing rights given to creators for their literary and artistic works or, computer programmes, compilations, audiovisual works, sound recordings, broadcast, capable programmes, typographical arrangements of published editions of literary works, including rights of performing artists in their performances, the right of producers of phonograms in their phonograms.

From the University's point of view, the works covered by copyright include literary novels, poems, plays, dramatic works, computer programmes, database, films, musical compositions and choreography, artistic works such as paintings, drawings, photographs, sculpture, architecture, maps, multimedia creations and technical drawings. In Zambia, Copyrights are protected under the Copyrights Act, Cap 406 of the Laws of Zambia. The creator of copyrights holds the exclusive right to use or authorise others to use the work for a period of fifty years generally and for original works 50 years plus the life of the author. The creator of a work can prohibit or authorise:

- (a) its reproduction in various forms, such as printed publication or sound recording;
  - (b) public performance, in the form of plays, dramatic or musical works;
  - (c) its recordings, for example in the form of compact discs, CD, DVD's cassettes, or videotapes;
  - (d) its broadcasting, by radio, cable, or satellite;
  - (e) its translation into other languages, or its adoption, into a novel, screen play or a movie and
  - (f) its availability for access such as through a website or the internet;
- (ii) Many creative works, protected by copyright require distribution, communication and financial investment for their dissemination (for example, publications and computer programmes). The University of Zambia, therefore, may need to sell or license the rights to individuals or entities that are best able to market the Copyright works at a fee;
- (iii) Copyright protection also includes moral rights, which involve the right to claim authorship of a work, and the right to oppose changes to it that could harm the University's reputation. The University of Zambia may wish to oppose the use of copyright in circumstances that the University would deem such work to amount to derogatory treatment of works and to distortion or mutilation of the work or is otherwise prejudicial to the honour or reputation of the author or creator of works (e.g., to promote a racist agenda or immorality);

- (iv) In the event of illegal production or possession of goods protected by the University, the University shall obtain court orders to stop such activities, as well as seek damages for loss of financial rewards and recognition including court orders granting the University power to destroy any infringing works.

#### **2.1.1.6 Trade Secrets**

- (i) Trade secrets comprise confidential data or information used in research, business, commerce or industry. The University of Zambia shall own and use Trade secrets including confidential scientific, technical business, commercial and financial information not publicly known, for purposes of ensuring that enterprises owned by the University of Zambia have a competitive edge over other enterprises;
- (ii) Trade Secret information may be disclosed or shared subject to a Confidential Agreement. Confidential information may be created in sponsored research projects in which case, the sponsor may require the University to preserve such information as confidential information;
- (iii) The University of Zambia, however, shall ensure that trade secret protection does not negate knowledge sharing which is part of the academic mission of the University of Zambia.

#### **2.1.1.7 Know-how**

- (I) Know-how refers to the actual human technical skills derived from experience in working a certain technology. It may or may not be part of a trade secret. Licensing of most new technologies works best when accompanied by transfer of know-how either through training, manuals or secondment of personnel to the licensor until the licensor's personnel are able to optimally utilise the invention. Transfer of Know-how is an active form of transfer of technology and will involve job creation to trainers of personnel as knowledge and technology is exported by the University within Zambia and beyond.

### 2.1.1.8 New Plant Varieties

- (i) Zambia does not currently have legislation that provides for the protection of New Plant Varieties. The University recognises that it is involved in research in the development of New Plant Varieties that need protection in order to secure the University's interests. The University further recognised that the University will have to lobby government to enact the appropriate legislation protecting New Plant Varieties.
- (ii) Protection for New Plant Varieties gives the Plant breeder limited monopoly rights over the varieties they have created by way of registration system of the said New Plant varieties which New Plant Varieties maybe be exploited by the plant breeder for financial gain through licensing assignment and sale of new plant products to the public such as high quality, resistant, long shelf life products, e.g., seeds, fruits, etc.

### 2.1.1.9 Electronic Commerce

- (i) Electronic commerce consists primarily of the distributing, buying, selling, marketing and servicing of products over electronic systems such as the internet and the World Wide Web (WWW) and other computer networks. Electronic Commerce also involves electronic funds transfer, supply chain management, e-marketing, online marketing, online transaction processing, electronic data interchange, automated inventory management systems, and automated data collection systems which systems and networks eliminate bureaucratic and time consuming business practices making life and business more efficacious and reliable. The University, therefore, recognises that e-commerce can be utilised to enhance delivery of services to its customers and stakeholders on affordable terms thereby achieving its objectives on target.
- (ii) The University, however, recognises that Zambia has just adopted an ICT Policy 2005 through the Ministry of Communications and Transport which recognises the need for encouraging and promoting e-commerce and further recognises governments role in this regard to enable access to information to all and ensure that everyone benefits from new technologies

pursuant to the United Nations millennium goals so as to alleviate poverty and enhance development and economic growth. The University also recognises that by the nature of e-commerce and the systems and networks that enable it also create an environment ripe for crime as crime follows opportunity and e-commerce and cyberspace provide numerous opportunities, the University will need to lobby the Government to provide for:

- (a) Legal certainty concerning legal validity, enforceability and admissibility of e-communication so as to enhance reliance of e-commerce;
- (b) Legal security and privacy;
- (c) Legal protection;
- (d) Legal deterrents against crimes.

#### **2.1.1.10 Expression of Folklore**

- (i) The emergence of a “global information society” in recent years, characterised by the rise of modern information technologies, has also given rise to increasing awareness of the values of traditional knowledge and folklore. At a time when the wealth of nations lies increasingly in the knowledge base they hold, emerging stakeholders in Intellectual Property field are claiming a new set of information resources, to which they refer as “traditional knowledge”. The concept of “traditional knowledge” is important for:
  - (a) Environmental conservation;
  - (b) Agriculture and food security;
  - (c) Traditional medicine as a source of primary health care;
  - (d) Indigenous knowledge, in the context of preserving cultural diversity and protecting minority cultures, especially those of indigenous people;
  - (e) The preservation of cultural heritage;
  - (f) Sustainable development;
  - (g) The Intellectual Property field, where the importance of protecting the living cultural heritage of nations recognised with respect to “expressions of folklore”.

- (ii) Expressions of folklore as products consisting of characteristic elements of the traditional artistic heritage developed and maintained by a community or by individuals reflecting the traditional artistic expectations of such a community. The definition includes in particular verbal expressions (such as folk tales), musical expressions (such as folk songs), expressions by action (such as folk dance or other ritual), and tangible expressions (such as drawings, paintings, carvings, sculptures, pottery, terra-cotta, mosaic, woodwork, metal ware, jewellery, basket weaving, needlework, textiles, carpets, costumes, musical instruments, architectural form). The first three kinds of expressions need not be reduced to material form”, that is to say, the words need not be written down, the music need not exist in musical notation and the dance need not exist in choreographic notation. On the other hand, tangible expressions by definition are incorporated in a permanent material, such as stone, wood, textile, metal, etc.
- (iii) Policy objectives should promote innovation and creativity and should additionally serve as incentives for:
- (a) Respect for, and preservation of traditional knowledge systems in their integral and undistorted forms;
  - (b) The fair and equitable distribution of benefits, including the prevention of unauthorised use for profit, the use of Intellectual Property systems for access and benefit sharing in genetic resources and the repatriation of cultural heritage;
  - (c) The increased use and dissemination of traditional knowledge;
  - (d) The protection of traditional knowledge in the context of the conservation of biological diversity.

Moreover, it is important to note that Zambia currently does not have a Law that protects traditional knowledge and there is need for the University to lobby for a Law in this regard.

### **2.1.1.11 Integrated Circuits**

- (i) Another field in the protection of IP is that of layout-designs (topographies) of integrated circuits. The layout-designs of integrated circuits are creations of the human mind. They are usually the result of an enormous investment, both in terms of the time of highly qualified experts and financially. There is a continuing need for the creation of new layout-designs which reduce the dimensions of existing integrated circuits and simultaneously increase their functions. The smaller an integrated circuit, the less the material needed for its manufacture, and the smaller the space needed to accommodate it. Integrated circuits are utilised in large range of products, including articles of everyday use, such as watches, television sets, washing machines, automobiles, etc, as well as sophisticated data processing equipment.
- (ii) Whereas the creation of a new layout-design for an integrated circuit involves an important investment, the copying of such a layout-design may cost only a fraction of that investment. Copying maybe done by photographing each layer of an integrated circuit and preparing masks for its production on the basis of the photographs obtained. The possibility and potential industry for lobby for integrated circuits is the main reason for the introduction of legislation for the protection of layout-designs by the University of Zambia since there is no law in Zambia that protects integrated circuits.

### **2.1.1.12 Protection Against Unfair Competition**

- (i) Protection against unfair competition has been recognised as forming part of industrial property protection for almost a century. By recognising that, any act of competition contrary to honest practices in industrial or commercial matter constitutes an act of unfair competition, the following in particular are generally prohibited:
  - (a) All acts of such nature as to create confusion by any means whatever with the establishment, the goods, or the industrial or commercial activities, of a competitor;

- (b) False allegations in the course of trade of such a nature as to discredit the establishment, the goods, to the industrial or commercial activities, of a competitor and
  - (c) Indications or allegations of the use, of which in the course of trade, is liable to mislead the public as to the nature, the manufacturing process, the characteristics, the suitability for their purpose, or the quantity of goods.
- (ii) The need for Protection is recognised number of counties both in regions of the developed and developing world, are adopting or have adopted market economy systems, which allow free competition between industrial and commercial enterprises within certain limits defined by law. Free competition between enterprises is considered the best means of satisfying supply and demand in the economy and of serving the interests of consumers and the economy as a whole. However, where there is competition, acts of unfair competition are liable to occur. This phenomenon has been discernible in all countries and at all times, regardless of prevailing political or social systems. Further experience has shown that there is little hope of fairness in competition being achieved solely by the free play of market forces. In theory consumers, in their role as referees of economic play, could deter dishonest entrepreneurs by disregarding their goods or services and favouring those of honest competitors. Reality, however, is different. As an economic situation becomes more complex, consumers become less able to act as referees. Often they are not even in a position to detect by themselves acts of unfair competition, let alone react accordingly. And so the University will be required to be vigilant in monitoring unfair competition against its Intellectual Products so as to protect the University's interests.

#### **2.1.1.13 Geographical Indications**

- (i) According to this terminology, the following distinctions is made between indications of source and appellations of origin: “indication of source” means any expression or sign used to indicate that a product or service originates in a country, a region

- or a specific place, whereas “appellation of origin” means the geographical name of a country, region or specific place which serves to designate a product originating therefore virtue of the characteristic qualities of that product due exclusively or essentially to the geographical environment, including natural or human factors or both natural and human factors.
- (ii) It is important to highlight the difference between indications of source and appellations of origin. The use of an appellation of origin requires a quality link between the product and its area of production. The qualitative link consists of certain characteristics of the product which are exclusively or essentially attributable to its geographical origin such as, for example, climate, soil or traditional methods of production. On the other hand, the use of an indication of source on a given products is merely subject to the condition that this product originates from the place designated by the indication of source. Appellations of origin can be understood as a special kind of indication of source. According to the terminology traditionally applied, the term “indication of source” comprises all appellations of origin, but, in its general use, it has become rather a designation for those indications of source which are not considered to be appellations of origin.
- (iii) Geographical Indications embraces all existing means of protection of such names and symbols, regardless of whether they indicate that the qualities of a given product are due to its geographical origin (such as appellations of origin), or they merely indicate the place of origin of a product (such as indications of source). This definition also covers symbols, because geographical indications are not only constituted by names, such as the names of a town, a region or a country (“direct geographical indication”), but may also consist of symbols. Such symbols may be capable of indicating the origin of goods without literally naming its place or origin.
- (iv) The use of the IPRs by the University would protect most of the University Intellectual products especially outside Zambia.

### **3.0 OWNERSHIP OF IPRs**

The University of Zambia shall own any Intellectual Property that is made, conceptualised, discovered or created by a member of staff, students, visiting researchers etc, in the course of their employment and responsibilities at the University or any person who makes significant use of the institution's resources in connection with the development of such Intellectual property.

#### **3.1.1 Ownership by a Financial Sponsor**

- (i) The University of Zambia shall own all Intellectual Property Rights made, discovered, or created in the course of research funded by a sponsor, unless otherwise provided by written agreement between the University of Zambia and the sponsor;
- (ii) Where a sponsor specified a technical problem to be solved by the research at the University and a researcher stumbles on a totally different and unrelated invention in addition to solving the sponsor's problem then the "accidental" invention shall belong to the University;
- (iii) Where the University of Zambia is involved in collaborative research with another institution or business entity, the Intellectual Property Right shall be co-owned and the distribution of royalties will be governed by a contractual agreement between the parties. Both institutions may contribute towards expenses related to acquiring IP Rights and Licensing.

#### **3.1.2 Ownership by Individual Staff**

- (i) Inventions or creations protectable by IP for which individuals can prove that they did not use University resources and time shall belong to the inventor or the creator of works;
- (ii) If an inventor or creator of works makes, creates, or discovers IP and claims that he/she did not make "significant use" of the University's resources, but the Intellectual Property closely resembles a specific research project that the inventor or creator of work has conducted at the University of Zambia, it shall be argued that the Intellectual property was developed with the use

- of the University of Zambia resources. Under such conditions, the inventor or creator or works shall be required to provide documentary evidence supporting the claim, that he did not use University resources;
- (iii) The University of Zambia will not take responsibility for IP information disclosed or used at the University by a former employee of another institution or by an employee of an institution in collaborative or like research with the University of Zambia without the consent of the other institution;
  - (iv) If within a period of one year, of ceasing to be an employee or stakeholder of the University that employee or stakeholder comes up with an invention or creation of work, such invention or creation of work shall be deemed to belong to the University unless there is clear proof that the invention or creation of work was fully carried out without utilisation of University resources and time at the material time the person was an employee or stakeholder of the University. The burden of proof shall be on the employee stakeholder;
  - (v) If the University of Zambia does not exploit an invention or creation of work within five years after the grant of Intellectual Property Right or where the University has no intention of exploiting the invention or creation of work, the University may re-assign ownership to the inventor or creator of work upon request;
  - (vi) Should the University of Zambia not express an interest to pursue patent protection or any Intellectual Property protection (due to low commercial potential, ethics and morality issues etc) the University will, in writing, assign to the inventors or creator of works the rights to the invention or creation.
  - (vii) The University of Zambia shall own any Intellectual Property Rights made, discovered, or created by anybody who is specially hired or commissioned by the University for that purpose, unless otherwise provided by written agreement between such individual and the University.

## 4.0 OWNERSHIP OF EQUIPMENT

- 4.1** Equipment purchased on externally funded research contract shall remain the property of the University of Zambia upon completion of the contract. The equipment will be under the custodian of the department involved in the research. Where more than one department is involved, the office of the Deputy Vice Chancellor shall determine the distribution of the equipment.

## 5.0 RESOURCES

- 5.1** The University resources shall be the tangible and intangible resources provided by the University of Zambia to researchers, inventors and creators of works including:
- (i) Office, laboratory, studio space and equipment and facilities;
  - (ii) Computer hardware, software and support services and facilities;
  - (iii) Secretariat services and facilities;
  - (iv) Research, teaching and lab assistants and;
  - (v) Supplies and utilities;
  - (vi) Funding for research and creating works; and
  - (vii) University Time.

### 5.1.1 Use of the Library

The use of Library facilities and other facilities available to the general public, shall not be considered by the University of Zambia as “significant use” of the institution's facilities and equipment.

## 6.0 IMPORTANT AGREEMENTS

- 6.1** The University of Zambia will formulate appropriate agreements and other related contractual documents, for the management of Intellectual Property Rights, such as the:
- (i) Participation Agreements;
  - (ii) Material Transfer Agreements and
  - (iii) Confidentiality Agreements.

### **6.1.1 Participation Agreement**

- (i) As a way of enforcing the University of Zambia IPP there shall be a participation agreement that confirms acceptance of the policy by employees, students and all other category of researchers. Each Head of Department must confirm that a valid Participation Agreement is on file before any University's resources are made available for any research;
- (ii) New employees recruited by the University shall be required to sign the participation agreement on taking up appointment while subsisting employees shall be required to sign the agreement at the initiation of the research programme;
- (iii) The Participation agreement shall govern issues related to ownership of the IPRs and distribution of Royalties and other financial obligations and rights, *inter alia*, at the initiation of the research programme.

### **6.1.2 Material Transfer Agreement**

- (i) There shall be a Material Transfer Agreement, which will govern the transfer of Proprietary tangible property, often biological materials to or from the University of Zambia during collaborative projects with other institutions and industries. Each Head of Department shall ensure that appropriate Material Transfer Agreement is developed with the collaborating institution and signed by the authorised officer of the University. This Agreement shall also provide for matters related to ownership, rights and obligations of the parties and financial distribution of royalties and other financial benefits among other things.

### **6.1.3 Confidentiality Agreement**

There shall also be a Confidentiality Agreement to govern the disclosure of information or data relating to research, ideas, creations and information within the University and outside the University.

## **7.0 PUBLICATIONS, THESES AND DISSERTATIONS**

- 7.1 Students' theses and dissertations are considered "Exempted Scholarly Works", therefore, the students will own copyright subject to a royalty-free license to the University to reproduce and publish for the purpose of training and research at the University of Zambia.
- 7.2 The University of Zambia shall protect the right of any faculty, student and other employees to publish the results of their work, by ensuring that where applicable, preliminary application of IPR is undertaken.
- 7.3 For a publication arising from contract research, the University shall be allowed to publish and disclose an invention or creation of works unless otherwise stated in an agreement.

## **8.0 WHERE THE INVENTOR OPTS TO COMMERCIALLY EXPLOIT AN INVENTION**

- 8.1 Where the University of Zambia allows the inventor or creator of work to commercially exploit his invention or creation, the University will retain ownership of the invention, but shall give license to the inventor or creator or a third party who will then pay royalties to the University.

## **9.0 POLICY IMPLEMENTATION**

### **9.1 Overall Implementation Office**

The implementation of the policy shall be done through the Deputy Vice Chancellor's office and which office shall be guided by the Intellectual Property Advisory Committee.

#### **9.1.1 The Intellectual Property Advisory Committee (IPAC)**

- (i) The IPAC shall be responsible for:
  - (a) The development of the specific implementation procedures for this policy;
  - (b) The periodic review of this policy;

- (c) Advising the Deputy Vice Chancellor on issues related to the determination of disputes related to ownership of IPRs and resolution of conflict of interest issues that may arise under this policy;
  - (d) Receiving and approving periodic reports from the IPMU and to make recommendations on the same to the Deputy Vice Chancellor.
- (ii) The IPAC shall be appointed by the Deputy Vice Chancellor and shall comprise the following:
- (a) The University Legal Counsel;
  - (b) All Deans/Directors;
  - (c) Manager UNZA Publisher.
- (iii) The Committee shall be chaired by the DRGS Director.

## **10.0 CREATION OF THE INTELLECTUAL PROPERTY MANAGEMENT UNIT**

10.1 The University shall create an Intellectual Property Management Unit which shall manage the Intellectual Property Rights of the University of Zambia in liaison with the Intellectual Property Advisory Committee, the University of Zambia Legal Counsel and the Intellectual Property enterprises setup or to be set up by the University.

### **10.1.1 Functions of the Intellectual Property Management Unit**

- (i) The IPMU shall report to the IPAC and its functions shall be to:
  - (a) Sensitise University staff regarding intellectual property management;
  - (b) Assess the potential of inventions and creations and works capable of Intellectual Property protection;
  - (c) Evaluate the commercial potential of the invention or creation;
  - (d) Obtain appropriate Intellectual Property protection;
  - (e) Locate suitable commercial development partners;
  - (f) Develop mechanisms within the University for negotiating, licensing and management of Intellectual Property Rights;

- (g) Negotiate and manage Assignment and License Agreements;
  - (h) Identify Industrial problems soluble through research;
  - (i) Assist Heads of Departments to ensure proper negotiation of the Participation Agreement, Material Transfer Agreement, Confidentiality Disclosure Agreement, among others;
  - (j) Build and enhance the capacity for personnel and documentation needed to perform technology searches, draft IPR applications, and
  - (k) Refine University and existing technology through standardisation of processes and products ready for marketing.
- (ii) All researchers at the University of Zambia shall be obliged to disclose all potentially protectable creations and inventions conceived in the course of their responsibilities to the University of Zambia through the IPMU.

## **11.0 HANDLING OF A DISCLOSURE**

**11.1** The Intellectual Property Management Unit shall have disclosure forms to assist inventors and creator of works. The key information required on the Disclosure form shall include:

- (i) The invention or creation title;
- (ii) Names of all inventors /creators and the degree of their contributions to the invention or creation. All the inventors /creator to the Disclosure form in order to append their signatures must confirm their consent;
- (iii) Description of the invention/creation;
- (iv) Indicate any sponsorship support obtained, if any form and extent;
- (v) Dates of conception and realisation of invention/creation;
- (vi) Any other relevant information, and
- (vii) Any agreement entered into, in relation to the invention or creation.

- 11.1.1 The University of Zambia researchers shall be sensitised on the importance of recording invention/creation as early as possible and as complete and accurate as possible. The description shall be written to allow another person reading it to comprehend and reproduce the invention/creation. The description shall be written preferably in a bound notebook with numbered pages, in ink.
- 11.1.2 Submitting a Disclosure is the first formal step in obtaining proper Intellectual Property Protection. Inventors and creators are strongly encouraged to submit invention or creation Disclosures early in their invention or creation development process to avoid any potential ownership disputes.

## **11.2 Importance of Disclosure of Invention**

A Disclosure shall be understood as a formal description of an invention or creation that is confidentially made by the inventor or creator of work to the University of Zambia through the IPMU for the purpose of protection.

- 11.2.1 Disclosure of an invention or creation to a competent office is important for record keeping, processing, protection, commercialisation and enforcement of inventions and creations.
- 11.2.2 Disclosure of an invention or creation shall be made through the Intellectual Property Management Unit.
- 11.2.3 Any Disclosure to third party must be confidential and subject to an agreement and the consent of the University of Zambia.

## **11.3 Premature Disclosure**

Premature disclosure is the release of information concerning an invention to the public before an IP application is filed. Premature disclosure includes abstracts, posters, sessions, shelved theses or even certain talks describing an invention or creation to an open audience or private audience. Such premature disclosure may disqualify an invention for protection. The Intellectual Property Management Unit should promptly sensitise, educate and advise researchers and stakeholders against premature disclosure.

**11.4 Obligations of the University of Zambia during and after an Invention or Creation Disclosure**

- 11.4.1 In all cases, any work or creation protectable by Intellectual Property disclosed by members for possible commercialisation, the University of Zambia shall be obliged to determine its commercial potential.
- 11.4.2 Intellectual Property Disclosures shall be considered confidential by the University of Zambia. All members of the Intellectual Property Management Unit shall sign an agreement to this effect and shall be liable to be sued for breach of confidentiality.
- 11.4.3 The University of Zambia shall encourage the development by industry of its inventions or creations and technology and seek to facilitate the transfer of such technology for the use and benefit of the University and the public.
- 11.4.4 The University of Zambia shall provide a process for resolution of disputes that arise between the University and other institutions, sponsors and inventors or creators regarding Intellectual Property rights. In all cases the Zambian law shall prevail.

**11.5 Obligations of Inventors or Creators during and after Disclosure of Inventions /Creations**

- 11.5.1 The University of Zambia personnel are obliged to disclose in details and timely manner, all inventions or creations, discoveries and other works.
- 11.5.2 The inventor or creator shall provide such assistance to the Intellectual Property Management Unit as may be necessary throughout the technology transfer process to protect and license the works, creations and inventions protectable Intellectual Property.
- 11.5.3 The inventor or creator shall arrange for the retention of all records and documents that are necessary to protect the interests of the University of Zambia in relation to the Intellectual Property Rights. A copy of these records shall be deposited with the Intellectual Property Management Unit.
- 11.5.4 The inventor or creator shall abide by all commitments made in any license, contract research and other agreement entered into and related to privately funded research.
- 11.5.5 The inventor or creator shall promptly disclose all potential conflicts of interest (e.g. research with multiple sponsors) to the University.

- 11.5.6 The inventor or creator shall be expected to apply reasonable judgement as to whether an invention or creation has commercial potential and without delay make formal disclosure of the same to the Intellectual Property Management Unit.
- 11.5.7 The inventor or creator shall be obliged to disclose his invention or creation as soon as possible and to delay Public Disclosure until the evaluation process is completed and Intellectual Property protection application is filed before the appropriate authority.

## **11.6 Confidential Disclosure Agreement (CDA)**

During the evaluation period, an invention or creation may be safely disclosed outside of the University of Zambia under the protection of a confidential Disclosure Agreement (CDA) under strict conditions. Disclosures made under an appropriate CDA are not considered Public Disclosures but shall be private disclosure which must also be governed by an appropriate confidential Disclosure Agreement.

- 11.6.1 A University of Zambia researcher or creator of works may receive confidential information from another organisation in relation to research he performs at the University of Zambia. The collaborating institution may impose serious non-disclosure and non-use obligations on the confidential information and may claim an ownership interest in invention or creation that may arise in the course of research performed with such confidential Information. For this reason, only competent staff of the Intellectual Property Management Unit are authorised to approve and sign CDA's on behalf of the University. All CDA's shall be considered by a committee at senate and appropriate approvals shall be given before any CDA is executed.
- 11.6.2 When the University of Zambia staff, in the course of contract research, receives confidential information, the treatment of such confidential information will be governed by the terms of the agreement applicable to the contract research.

## **12.0 MARKET EVALUATION LICENSING AND ASSIGNMENT OF IPRS AND REVENUE DISTRIBUTION**

### **12.1 Market Evaluation Licensing and Assignment of IPRs**

The Intellectual Property Management Unit will develop a manual for evaluating the commercial potential of different inventions and creations in the University.

- 12.1.1 The University of Zambia may license the right to commercialize its Intellectual Property. The University through the IPMU shall get the best deal for the University of Zambia and the inventor or creator of work.
- 12.1.2 The Intellectual Property Management Unit shall advise the University of Zambia whether to issue exclusive or non-exclusive licenses depending on the envisaged benefits to the University and inventor or creator.
- 12.1.3 The Intellectual Property Management Unit shall develop a manual consisting of a checklist of items, which must be considered when discussing a licensing agreement or assignment of IPRs.

### **12.2 Revenue Distribution from Commercialised Intellectual Property Rights**

- 12.2.1 Gross Income shall be understood as funds obtained from commercialisation of an Intellectual Property Right Net Income shall be understood as Gross Income less expenses incurred by the University of Zambia for Intellectual Property Rights processing, protection, maintenance, licensing or Assignment of IPRs.
- 12.2.2 Where an invention made by an employee of the University of Zambia is commercialised, the net income shall be distributed to the following:
  - (i) 45% to the Inventor or creator;
  - (ii) 10% IP Fund of the University of Zambia;
  - (iii) 10% to the inventor's research or creator's project;
  - (iv) 5% to Inventor's or creators' departmental infrastructure;
  - (v) 5% to the Faculty infrastructure;
  - (vi) 10% to the Intellectual Property Management Unit, and
  - (vii) 15% to the University research project fund (Central Administration)

It is important to note that the University of Zambia shall be required to consider the possible revenue or royalty distribution ratio in the appropriate regulations to be issued by the University.

- 12.2.4 These percentages or ratios may be reviewed after every two years or after any agreed period.
- 12.2.5 In the absence of a written agreement to the contrary, multiple inventors or creators shall receive equal portions of the inventor's or creator's share of the net revenue. When multiple Inventors are located in different departments, faculties and campuses, the same shall also apply to the units.
- 12.2.6 It should be understood that the Inventor or creator shall continue to receive his share even after leaving employment of the University. In the event of death of the inventor or creator, inventor or creator benefit or interest shall pass to his beneficiaries through the operation of law.
- 12.2.7 Collaboration institutions shall be free to use their own policies and practices as regards distribution of their respective share or royalties.

### **12.3 Equity Shares**

The University of Zambia may opt to negotiate for partnership or joint ventures, with any other entity that has obtained a License in the University's technology in exchange for royalties.

- 12.3.1 The University may also opt to negotiate for an equity interest in lieu of or in addition to monetary consideration as a part of an agreement between it and an external entity relating to applicable Intellectual Property Rights.
- 12.3.2 Where the University has taken the equity option, an inventor or creator shall be allowed to decide whether to opt for an equity interest or a royalty option.
- 12.3.3 Where the University of Zambia owns equity interests, the monetary proceeds generated from dividends or bonuses or by the sale of such equity interests, shall be distributed according to agreed polices for revenue distribution.

**Annotated Review of Studies on  
HIV, AIDS, STIs and TB  
Zambia  
2001-2007**

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## TABLE OF CONTENTS

<i>Foreword</i> .....	v
<i>Acknowledgements</i> .....	vi
<i>Disclaimer</i> .....	vii
<i>Abbreviations</i> .....	viii
<i>List of abstracts</i> .....	xi
1.0      INTRODUCTION .....	1
2.0      METHODOLOGY .....	3
3.0      ABSTRACTS .....	4
3.1. THEME I. INTENSIFYING PREVENTION OF HIV .....	4
Strategic objective 1: Prevent sexual transmission of HIV with a special emphasis on youth, women and high risk behaviours.....	4
Strategic objective 2: Prevent mother to child transmission .....	42
Strategic objective 3: Prevent HIV transmission through blood and blood products .....	49
Strategic objective 4: Prevent HIV transmission in health care and other care settings and promote access to post exposure prophylaxis treatment.....	49
Strategic objective 5: Improve access to and use of confidential counseling and testing .....	52
Strategic objective 6: Mitigate stigma and discrimination against HIV .....	60
Strategic objective 7: Prevent HIV transmission through intravenous drug use.....	63
Strategic objective 8: Support development and participation in HIV vaccine clinical trials .....	64
3.2. THEME II. EXPANDING TREATMENT, CARE AND SUPPORT FOR PEOPLE AFFECTED BY HIV AND AIDS .....	65
Strategic objective 9: Provide universal access to ART including access to CCT at all treatment ... centers .....	65
Strategic objective10:Expand treatment for tuberculosis sexually transmitted infections (STIs) .... and other opportunistic infections (OIs).....	89
Strategic objective11:Strengthen home or community based care and support including access .... comprehensive palliative care and pain management .....	102
Strategic objective12:Support the utilization of alternative and/or traditional medicine which have scientifically demonstrated efficacy.....	105
Strategic objective13:Promote appropriate nutrition and positive living for PLHAs .....	108
3.3. THEME III. MITIGATING THE SOCIO-ECONOMIC IMPACT OF HIV AND AIDS .....	110
Strategic objective 14:Protect and provide support for orphans and vulnerable children.....	110
Strategic objective 15:Provide social protection for people made vulnerable from the effects of .... HIV and AIDS .....	116
Strategic objective 16:Promote progammes of food security and income/livelihood generation for PLHAs and their caregivers/families .....	119
3.4. THEME IV. STRENGTHENING THE DECENTRALISED RESPONSE BY MAINSTREAMING HIV AND AIDS .....	121
Strategic objective 17:Mainstream HIV and AIDS into district level development policies, ..... strategies, plans and budgets .....	121
Strategic objective 18:Improve capacity of districts, provincial and national planning mechanisms in multi- sectoral HIV and AIDS planning, monitoring and coordination ....	124
Strategic objective 19:Mainstreaming HIV and AIDS into sector (Private, public and civil society) development policies, strategies plans and budgets .....	134
Strategic objective 20:Develop and implement comprehensive workplace policies that take into ... consideration issues around education, awareness and prevention, ..... treatment, care and support .....	136
Strategic objective 21:Support the development of workforce development strategies which ..... prioritize the key sectors critical to the response to HIV and AIDS .....	141
3.5      THEME V. IMPROVING THE CAPACITY FOR MONITORING BY ALL PARTNERS .....	144

Strategic objective 22:Strengthen mechanisms and systems for monitoring and evaluation of the .. multi-sectoral response.....	144
Strategic objective 23:Improve capacity of implementing partners for monitoring and evaluation . of the situation and the response .....	155
Strategic objective 24:Strengthen operational and behavioural research and access to information on best practices and cost effective interventions .....	159
<b>3.6. THEME VI. INTEGRATING ADVOCACY AND COORDINATION OF THE MULTI- SECTORAL RESPONSE.....</b>	<b>181</b>
Strategic objective 25:Strengthen the institutional and the legal framework.....	181
Strategic objective 26:Improve coordination and resolve areas of duplication and gaps in the .. multi-sectoral response to HIV and AIDS to include resource management .....	182
Strategic objective 27:Advocate for mainstreaming effective policy implementation and fighting . stigma and discrimination .....	182
Strategic objective 28:Promote effective leadership for the multi-sectoral response for HIV and ... AIDS .....	185
<b>4.0 APPENDICES:</b>	
I. LIST OF HIV AND AIDS, STIs AND TB STUDIES REVIEWED AND APPROVED BY ... RESEARCH ETHICS COMMITTEES.....	189
II. AUTHOR INDEX.....	205
III. STUDY SITE INDEX .....	208
IV. PARTICIPANTS TO THE NATIONAL CONSULTATIVE MEETING .....	209
V. PARTICIPANTS TO THE PRELIMINARY RESEARCH AGENDA MEETING.....	212

## **FOREWORD**

The Development of this volume of the Annotated Review of HIV/AIDS/STI/TB studies is part of the National HIV/AIDS/STI/TB Council's mandate in developing a research strategy with a clear research agenda. The National HIV/AIDS/STI/TB Council also has a mandate in its role as coordinator of the multi-Sectoral response to the epidemic and aims to play its part in making research an active part of National Health Service system development. This is important because improved quality of life among the people of Zambia is the underlying goal of health reforms.

The main objective of producing this review of studies is to help paint the HIV/AIDS/STI/TB research picture and create a basis for developing a national HIV/AIDS/STI/TB research agenda that is multi-disciplinary, multi-sectoral, collaborative with both national and international partners, credible and relevant to national priorities. The document assists in highlighting past and current research trends and gaps as well as characteristics of HIV/AIDS/STI/TB research in Zambia so as to give the nation an understanding of where we are in terms of research history and accomplishments, including limitations. An assessment of how past research has been utilized is essential for prioritisation of the national HIV/AIDS/STI/TB research agenda.

The Government of the Republic of Zambia and its cooperating partners that support this effort share the belief that using scientific research assists in the understanding of the social and biomedical issues causing ill health and affecting the delivery of services in order to design better programs.

I believe this will help strengthen the dissemination of scientific and evidence based health information, which will assist in fostering regular interactions among the research actors, program implementers, policy makers and the community who are the ultimate beneficiaries of research.

Further, I am glad that this update has been carried out and that research dissemination strategies now form the core task of a continuous process in improving the quality and effectiveness of research being conducted.

Lastly but not the least, I urge the technical team behind this work to establish a sustainable system to review progress in the updating of our research priorities.

May I conclude by conveying my sincere gratitude to all the research actors, collaborating research institutions and agencies and the community for participating selflessly.

Dr. B. U. Chirwa  
**Director General**  
**National AIDS Council**

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The Annotated Review of Studies on HIV, AIDS, STIs and TB in Zambia 2001-2007 was developed through a process of submission of study reports from research institutions, individual researchers and a search on various research databases.

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Dr. Benjamin Chi - Centre for Infectious Disease Research in Zambia and  
All participants to both the Preliminary Research Agenda Meeting, the National Consultative Meeting (Appendix IV & V) and members of staff of the National AIDS Council

Lastly but not least, we express our sincere gratitude to Ms. Celestine A. Buyu of NASTAD/NAC for ably providing guidance and support to the whole process of developing this volume.

Mr. Osward Mulenga  
Director, M&E and Research  
**National AIDS Council**

## **DISCLAIMER**

The abstracts presented in this volume were authored by different individuals and organisations at different times between 2001 and 2007 and were also funded by different organisations. The contents of the abstracts reflect the views of the individual authors.

The National AIDS Council through a consultancy was responsible for collecting, compiling and disseminating these abstracts with the overall goal of understanding HIV, AIDS, STIs and TB research being undertaken in the country and identifying research gaps in order to develop a national research strategy with an evidence-based research agenda.

## ABBREVIATIONS

ADP	Area Development Programs
AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
ASO	AIDS Service Organizations
BDC	Bus Drivers and Conductors
BMI	Body Mass Index
CBO	Community Based Organisation
CBoH	Central Board of Health
CCF	Christian Children's Fund
CCT	Confidential Counselling and Testing
CD <sub>4</sub>	Cluster of Differentiation Type 4
CDC	Centers for Disease Control and Prevention
CDE	Classified Daily Employee
CI	Confidence Interval
CIDRZ	Centre for Infectious Disease Research in Zambia
CMMB	Catholic Medical Mission Board
CVCT	Couples' Voluntary Counselling and Testing
DA	Data Analysis
DAO	Dunking AIDS Out
DBS	Dried Blood Spots
DC	Data Collection
DFID	Department for International Development
DNA	Deoxyribonucleic Acid
EFA	Education for All
ELISA	Enzyme Linked Immunosorbent Assay
ESS	Epidemiological Sentinel Surveillance
FAWEZA	Forum for African Women Educationist-Zambian Chapter
FBO	Faith Based Organisation
FGD	Focus Group Discussion
GEMSA	Gender and Media in Southern Africa
GRZ	Government of the Republic of Zambia
HAART	Highly Active Antiretroviral Therapy
Hb	Haemoglobin
HBC	Home Based Care
HIV	Human Immunodeficiency Virus
HMF	Homogenise Moral Sway and Future Sanctuary
HPV	Human Papiloma Virus
ICT	Information, Communication Technology
IMCI	Integrated Management of Childhood Illness
MSM	Men who have Sex with Men
INA	Influential Network Agent
INESOR	Institute of Economic and Social Research
IUD	Intrauterine Device
JHPIEGO	Johns Hopkins Program for International Education in Gynecology and Obstetrics
LDHMT	Lusaka District Health Management Board
LINCS	Linking Children to Sponsors
M&E	Monitoring and Evaluation

MCH	Maternal and Child Health
MDG	Millennium Development Goals
MoE	Ministry of Education
Nab	Neutralizing Antibody
NAC	National HIV, AIDS, STIs and TB Council
NASTAD	National Alliance of State and Territorial AIDS Directors
NCSR	National Council for Scientific Research
NGO	Non-Government Organisation
NHCs	Neighbourhood Health Committees
NISIR	National Institute for Scientific and Industrial Research
NSTC	National Science and Technology Council
NVF	New Variant Famine
NVP	Nevirapine
OI	Opportunistic Infection
OVC	Orphans and Vulnerable Children
PCAZ	Palliative Care Association of Zambia
PCP	<i>Pneumocystis Carinii</i> Pneumonia
PCR	Polymerase Chain Reaction
PEP	Post-Exposure Prophylaxis
PEPFAR	President's Emergency Plan for AIDS Relief
PID	Pelvic Inflammatory Disease
PLWHA	People Living with HIV and AIDS
PMTCT	Prevention of Mother to Child Transmission
PQI	Performance and Quality Improvement
PRP	Pre-Research Planning
R&D	Research and Development Institutions
RDC	Resident Development Committee
RHA	Religious Health Asset
SADC	Southern Africa Development Community
SD	Single Dose
SIDA	Swedish International Development Agency
SIL	Squamous intraepithelial lesions
SME	Small and Medium Enterprises
SRH	Sexual and reproductive health
STI	Sexually Transmitted Infection
TB	Tuberculosis
TBA	Traditional Birth Attendant
TDRC	Tropical Disease Research Center
THPAZ	Traditional Healers and Practitioners Association of Zambia
TPHA	<i>Treponema Palidum</i> Haemagglutination Assay
UNAIDS	The Joint United Nations programme on HIV and AIDS
UNESCO	United Nations Education, Social and Culture Organisation
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations International Children's Fund
UNZA	University of Zambia
UP	Universal Precaution
USAID	United States Agency for International Development
UTH	University Teaching Hospital
VCT	Voluntary Counselling and Treatment
WHO	World Health Organisation
WPO	Wildlife Police Officer

WVI	World Vision International
YWCA	Young Women Christian Association
YAG	Youth Advisory Group
YAO	Youth Activists Organisation
YAZ	Youth Alive Zambia
YM	Youth Media
ZAMCOM	Zambia Institute of Mass Communication
ZAMSIF	Zambia Social Investment Fund
ZAPHIT	Zambia Association for the Prevention of HIV and Tuberculosis
ZARAN	Zambia AIDS Law Research and Advocacy Network
ZAWA	Zambia Wildlife Authority
ZDF	Zambian Defence Force
ZDHS	Zambia Demographic and Health Survey
ZVD	Zidovudine
ZEHRP	Zambia-Emory HIV Research Project
ZIHP	Zambia Integrated Health Programme
ZNAN	Zambia National AIDS Network
ZPCT	Zambia Prevention Care and Treatment Partnership

## LIST OF ABSTRACTS

1. KNOWLEDGE, ATTITUDE AND PRACTICES OF GRADE 12 PUPILS ON HIV/AIDS IN CHINGOLA DISTRICT, ZAMBIA, 4
2. SHORT-TERM SAFETY AND ACCEPTABILITY OF INTRAUTERINE CONTRACEPTIVE DEVICE IN HIV-INFECTED POSTPARTUM WOMEN: A RANDOMIZED TRIAL, 5
3. THE USE OF MICROBIOCIDES IN THE PREVENTION OF TRANSMISSION OF HIV/AIDS IN ZAMBIA, 6
4. DETERMINANTS OF UNSAFE SEX BEHAVIOUR AMONG THE YOUTH IN RELATION TO HIV/AIDS PREVENTION IN LUSAKA URBAN BASIC SCHOOLS, 7
5. THE AFRICAN CHILD IN PERSPECTIVE; TOO YOUNG TO BE DEFILED IN AN ERA OF HIV/AIDS, 7
6. CULTURAL, ECONOMIC, ENVIRONMENTAL AND PERSONAL FACTORS AFFECTING ADOLESCENT SEXUAL ATTITUDES AND BEHAVIOUR IN ZAMBIA, 8
7. IS SEXUAL HARASSMENT A REALITY IN ACADEMIC? A PILOT STUDY OF THE UNIVERSITY OF ZAMBIA, 9
8. INCREASING YOUNG MEN'S PARTICIPATION IN RH THROUGH SOCCER CAMPS, 9
9. ZAMBIAN ADOLESCENTS KNOWLEDGE SOURCES FOR HIV/AIDS AND THEIR SEXUAL RISK, 10
10. BOYS THINK YOU ARE HIV POSITIVE IF YOU ASK THEM TO USE A CONDOM. ADDRESSING THE REPRODUCTIVE HEALTH NEEDS OF ORPHANS AND VULNERABLE ADOLESCENTS IN ZAMBIA, 11
11. UNDERSTANDING HIV RISK BEHAVIOUR AMONG MEN WHO HAVE SEX WITH MEN IN ZAMBIA, 12
12. STIGMA AND DISCRIMINATION; THE BIGGEST CHALLENGE TOWARDS COMBATING COMPLETELY THE SPREAD OF HIV/AIDS BY 2015. 12
13. CULTURAL AND RELIGIOUS FACTORS INFLUENCING HIV VULNERABILITY AND PREVENTION 13
14. USING BROADCAST MEDIA TO SHINE A SPOTLIGHT ON THE REALITIES OF ZAMBIA HIV/AIDS EPIDEMIC 14
15. CHILD ABUSE AND HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES AND BEHAVIOUR AMONG ADOLESCENTS IN ZAMBIA 14
16. LINKING RESPONSES TO HIV/AIDS AT COMMUNITY, PROVINCIAL, REGIONAL AND NATIONAL LEVEL 15
17. WATER, WINE AND WOMEN - A BASELINE ASSESSMENT OF RISK FACTORS IN A FISHING COMMUNITY IN SOUTHERN ZAMBIA 16
18. COMMUNICATION EFFECTS AND THEIR IMPACT ON THE DISSEMINATION OF HIV/AIDS INFORMATION TO THE YOUTH: A STUDY OF TWO CHRISTIAN CHILDREN'S FUND (CCF) ZAMBIA PROJECTS 17
19. A STUDY OF SOCIO-CULTURAL ANTECEDENTS TO HIV PREVENTION AMONG THE LUVALE OF ZAMBEZI DISTRICT. 17
20. CULTURAL FACTORS FOR PERSONS WITH DISABILITIES IN ZAMBIA MAY INCREASE RISK OF HIV/AIDS 18
21. HIV INFECTION AS AN OCCUPATIONAL HEALTH PROBLEM AMONG MINIBUS AND TAXI DRIVERS (MBTDS) IN LUSAKA: PREVALENCE AND RISK FACTORS ASSOCIATED WITH HIV INFECTION 19
22. HIV/AIDS INFORMATION AMONG SECONDARY SCHOOL ADOLESCENTS AND ITS EFFECTS ON THEIR ATTITUDES AND SEXUAL BEHAVIOUR 20
23. PEER COACHES / LEADERS AS ETHNOGRAPHERS USING SPORT FOR HIV PREVENTION AND TREATMENT 20
24. ZAMBIA: MALE CIRCUMCISION PILOT PROJECT 21
25. LOCAL PERCEPTIONS OF RESISTANCE IN SOUTHERN ZAMBIA AND THEIR IMPLICATIONS FOR POLICY AND PROGRAMS 22
26. DEFILEMENT AS A THREAT TO HIV/AIDS PREVENTION IN ZAMBIA. 23
27. EFFECTIVENESS OF MESSAGES ON T-SHIRTS IN THE FIGHT HIV/AIDS 24
28. REDUCE HIV/AIDS IN ZAMBIAN PRISONS WITHIN THE CHRISTIAN FRAMEWORK. (MEN TO MEN TRANSMISSION) 24

29. UNDERSTANDING THE DYNAMICS OF HIV/AIDS AND FAMILY PLANNING AT THE COMMUNITY LEVEL IN ZAMBIA **25**
30. HIV/AIDS INFORMATION AMONG SECONDARY SCHOOL ADOLESCENTS AND ITS EFFECTS ON THEIR ATTITUDES AND SEXUAL BEHAVIOUR **26**
31. MITIGATING THE IMPACT OF HIV/AIDS IN ZAMBIAN SECONDARY SCHOOLS **27**
32. THE IMPACT OF SALE & NEGLECT OF SPORTS AND RECREATION FACILITIES IN FORMER ZCCM AREAS ON ADOLESCENTS AND ITS CONTRIBUTION TO THE INCREASE IN THE PREVALENCE RATES OF HIV, STIS AND TEENAGE PREGNANCIES IN FORMER MINE TOWNSHIPS IN KITWE ON THE COPPERBELT PROVINCE OF ZAMBIA **27**
33. THE ROLE OF HIV/AIDS HOME BASED CARE IN PROMOTING POSITIVE SEXUAL BEHAVIOURS AMONG ADOLESCENTS IN KABWE URBAN **28**
34. CATALYTIC PROJECTS THROUGH ZAMBIAN YOUTH IN THE HIV/AIDS RESPONSE **29**
35. A DECADE OF LESSONS LEARNED IN PREVENTING HIV/AIDS AMONG MOBILE POPULATIONS **29**
36. COMMUNITY PARTICIPATION IN HIV/AIDS AND GIRLS' EDUCATION INITIATIVES IN SOUTHERN PROVINCE, ZAMBIA **30**
37. HIV/AIDS/STIS/TB PREVALENCE & ACCESS TO TREATMENT/CARE AMONG HIGH RISK POPULATIONS- IN ZAMBIAN PRISONS. **31**
38. PERCEPTIONS, KNOWLEDGE AND ATTITUDES OF ZAMBIAN PEOPLE TOWARDS HIV/AIDS AND MALARIA **32**
39. SOCIAL SILENCE AND THE TRANSPORT SECTOR, CONSPIRE IN-SCHOOL GIRL'S VULNERABILITY TO HIV **33**
40. DILEMMAS FACING WOMEN ON ISSUES OF HIV AND CULTURE IN A RURAL SETTING **33**
41. FEMALE AND CULTURAL PRACTICES IN DEVELOPING COUNTRIES **34**
42. PREVENTING HIV WITH YOUNG PEOPLE: A CASE STUDY FROM ZAMBIA **35**
43. GENDER DIFFERENCES IN HIV/AIDS KNOWLEDGE AND RISKY SEXUAL BEHAVIOURS AMONG THE UNIVERSITY OF ZAMBIA STUDENTS IN LUSAKA **35**
44. CIRCUMCISION RAZOR A PREVENTIVE TOOL OR A STRATEGIC VECTOR IN THE TRANSMISSION OF HIV? - A CASE OF ZAMBIA **36**
45. RAPID ASSESSMENT ON HIV/AIDS/STIS **37**
46. MICROBICIDES AND FEMALE CONDOMS THE ANSWER FOR FEMALE UNIVERSITY OF ZAMBIA STUDENTS IN ZAMBIA **37**
47. THE USE OF ANTIRETROVIRAL DRUGS FOR HIV POST- EXPOSURE PROPHYLAXIS (HIV-PEP) AFTER CHILD SEXUAL ABUSE, WHAT DO PEOPLE IN THE COMMUNITY IN LUSAKA KNOW ABOUT IT? **38**
48. AWARENESS OF HIGH RISK BEHAVIOURS OF HUMAN IMMUNE VIRUS (HIV) TRANSMISSION BY YOUNG RURAL PEOPLE IN KATETE DISTRICT, ZAMBIA. **39**
49. WHY IS SATANISM LINKED TO HIV TESTING AND HIV PREVENTION PROGRAMMES AND ACTIVITIES IN ZAMBIA? **39**
50. POLYGAMY, A CULTURAL INFLUENCE OF HIV/AIDS TRANSMISSION FOR THE TONGA OF SOUTHERN PROVINCE ZAMBIA **40**
51. BRIDGING THE HIV PREVENTION GAP VIS-À-VIS LOOSING LEGITIMACY **41**
52. CHALLENGES OF PMTCT PROGRAM IMPLEMENTATION IN RURAL ZAMBIA. **42**
53. NO BENEFIT OF EARLY CESSION OF BREASTFEEDING AT 4 MONTHS ON HIV-FREE SURVIVAL OF INFANTS BORN TO HIV-INFECTED MOTHERS IN ZAMBIA: THE ZAMBIA EXCLUSIVE BREASTFEEDING STUDY **43**
54. CHALLENGES OF PMTCT PROGRAM **43**
55. DETERMINANTS OF KNOWLEDGE ON PMTCT OF HIV AMONG PREGNANT WOMEN ATTENDING ANTE-NATAL CLINIC IN NDOLA URBAN DISTRICT **44**
56. INFANT FEEDING PRACTICE FALLS SHORT OF RECOMMENDATIONS IN PILOT PMTCT SITES IN ZAMBIA AND KENYA **45**
57. IN AN URBAN AFRICAN SETTING, THE COST -EFFECTIVENESS OF PMTCT SERVICES IMPROVES AS SERVICES EXPAND **46**
58. [ALPHA]-DEFENSINS IN THE PREVENTION OF HIV TRANSMISSION AMONG BREASTFED INFANTS **46**
59. BARRIERS TO UPTAKE OF PREVENTION OF MOTHER-CHILD TRANSMISSION OF HIV SERVICES IN LUSAKA, ZAMBIA: A QUALITATIVE STUDY **47**

60. INNOVATIVE BOTTLENECK-SOLVING STRATEGIES FOR TAKING PMTCT PROGRAMS TO SCALE: LEARNING FROM PROVEN COUNTRY EXPERIENCES **48**
61. SINGLE-DOSE TENOFOVIR AND EMTRICITABINE FOR REDUCTION OF VIRAL RESISTANCE TO NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR DRUGS IN WOMEN GIVEN INTRAPARTUM NEVIRAPINE FOR PERNATAL HIV PREVENTION: AN OPEN-LABEL RANDOMISED TRIAL **48**
62. CHARACTERISTICS OF PATIENTS ENROLLED IN A COMMUNITY BASED HIV TREATMENT PROGRAM IN LUSAKA **49**
63. COLLEAGUES WITH HIV/AIDS: PERSPECTIVES FROM HEALTH WORKERS IN ZAMBIA **50**
64. PREVENTING THE MEDICAL TRANSMISSION OF HIV IN ZAMBIA **51**
65. ADHERENCE TO UNIVERSAL PRECAUTIONS WITH REFERENCE TO HIV INFECTION AMONG MIDWIVES AND TRAINED TRADITIONAL BIRTH ATTENDANTS DURING HOME AND HEALTH CENTRE DELIVERIES IN SIAVONGA AND MAZABUKA DISTRICTS **52**
66. VOLUNTARY COUNSELLING AND TESTING (VCT) IS FEASIBLE AND DESIRABLE IN CORRECTIONAL SETTINGS **53**
67. ADDING VCT TO SOLWEZI DIOCESE HOME BASED CARE INCREASESUPTAKE, NORTH-WESTERN PROVINCE, ZAMBIA **53**
68. SEXUAL BEHAVIOUR OF HIV DISCORDANT COUPLES AFTER HIV COUNSELING AND TESTING. **54**
69. VOLUNTARY HIV COUNSELING AND TESTING (VCT): IS IT FEASIBLE IN SCHOOLS? **55**
70. KEEP IT "A QUIET STORY" OR "EXPOSE THE TRUTH"? UNDERSTANDING THE QUANDARIES FACING ZAMBIAN WOMEN WHEN DECIDING TO HAVE A HIV TEST AND/OR DISCLOSE THEIR STATUS TO OTHERS **55**
71. VOLUNTARY HIV COUNSELING AND TESTING (VCT): IS IT FEASIBLE IN SCHOOLS? **56**
72. IMPLEMENTING A COMMUNITY-BASED MODEL FOR THE PROMOTION OF COUPLES' VOLUNTARY COUNSELING & TESTING IN TWO AFRICAN CAPITAL CITIES: SIMILARITIES, DIFFERENCES & LESSONS LEARNED **57**
73. COMMON REASONS FOR ACCESSING VCT AMONG WOMEN AT CHIPATA CLINIC LUSAKA **58**
74. COMMUNITY BASED PROMOTION OF COUPLES' VCT: COST EFFECTIVENESS OF PEER VERSUS INFLUENCE AGENT MODELS **59**
75. STUDY TO DETERMINE WHY PEOPLE IN LUSAKA DISTRICT SHUN SERVICES OF HIV/AIDS VOLUNTARY COUNSELLING AND TESTING IN GOVERNMENT HEALTH INSTITUTIONS **59**
76. IF A PREGNANT WOMAN IS SICK AND HAS A SICK, PREMATURE BABY WHICH DIES BEFORE THREE MONTHS, THEN WE KNOW SHE IS AFFECTED AND TURN AWAY FROM HER. THIS IS OUR TEST: MOTHER-TO-CHILD TRANSMISSION AS THE CORE NARRATIVE OF HIV/AIDS IN RURAL ZAMBIA **60**
77. THE EXTENT OF DISCRIMINATION AND STIGMATIZATION OF PEOPLE LIVING WITH HIV/AIDS IN RURAL SOCIETY. **61**
78. HIV/AIDS-RELATED STIGMA AND DISCRIMINATION: IMPLICATIONS FOR THE DESIGN ANDIMPLEMENTATION OF COMMUNITY-BASED PREVENTION, CARE AND SUPPORT PROGRAMMES **62**
79. USE OF DRAMA GROUPS FOR HIV/AIDS COMMUNITY SENSITIZATION **63**
80. BELIEFS REGARDING HIV/AIDS RESEARCH PARTICIPATION IN LUSAKA, ZAMBIA **64**
81. COUNTRY EXPERIENCES OF INTEGRATION OF PAEDIATRIC HIV CARE WITHIN CHILD HEALTH PROGRAMMES **65**
82. RAPID SCALE-UP OF HIV CARE AND TREATMENT WITHIN THE LUSAKA PUBLIC HEALTH SECTOR. **66**
83. THE ROLE OF HIV/AIDS SUPPORT GROUPS IN FIGHTING STIGMA AND PROMOTING ACCESS TO TREATMENT **67**
84. COMMUNITY-BASED FOLLOW-UP FOR LATE PATIENTS ENROLLED IN A DISTRICT-WIDE PROGRAM FOR ANTIRETROVIRAL THERAPY IN LUSAKA,ZAMBIA **67**
85. CLINICAL OUTCOMES AND CD4 CELL RESPONSE IN CHILDREN RECEIVING ANTIRETROVIRAL THERAPY AT PRIMARY HEALTH CARE FACILITIES IN ZAMBIA **68**
86. IMPROVING ADHERENCE TO ART IN RESOURCE CONSTRAINED SETTING: THE ROLE OF ADHERENCE SUPPORT WORKERS **69**
87. SPECIMEN REFERRAL SYSTEM: QUALITY LABORATORY SERVICES FOR ART DELIVERY AT ALL LEVELS OF CARE **70**

88. HIV/AIDS CARE AND SUPPORT IN ZAMBIA: AN ASSESSMENT OF HEALTH FACILITIES IN FOUR DISTRICTS. **71**
89. RAPID SCALE-UP OF ANTIRETROVIRAL THERAPY AT PRIMARY CARE SITES IN ZAMBIA **71**
90. THE 3 X 5 HIV/AIDS TREATMENT PLAN; CHALLENGES FOR DEVELOPING COUNTRIES FROM THE ZAMBIAN PERSPECTIVE **72**
91. SOCIAL AND CULTURAL BARRIERS TO LONG-TERM HIV CARE: A CASE REPORT. **73**
92. HIVCORPS: USING VOLUNTEERS TO RAPIDLY EXPAND HIV HEALTH SERVICES ACROSS ZAMBIA **74**
93. DISTRIBUTION OF ANTIRETROVIRAL DRUGS IN ZAMBIA: AN ETHICAL INVESTIGATION **74**
94. FAITH-BASED LEADERSHIP IN EFFECTIVE HIV/AIDS PROGRAM DELIVERY: IMPROVING ACCESS TO TREATMENT THROUGH CHURCH HEALTH INSTITUTIONS AND PARISH NETWORKS IN AFRICA, INDIA AND THE CARIBBEAN **75**
95. HIV AND AIDS TREATMENT ACCESS ADVOCACY IN ZAMBIA **76**
96. COST-BENEFIT OF HAART AND ITS POTENTIAL FISCAL SAVINGS WITHIN THE PUBLIC SECTOR **77**
97. THE FEASIBILITY OF INITIATING AN HIV TREATMENT PROGRAM IN A PRIVATELY FUNDED HOME FOR THE DESTITUTE AND THE SICK **77**
98. EXPERIENCE WITH HAART AT NCHANGA SOUTH HOSPITAL **78**
99. FEAR OF HIV SERODISCLOSURE AND ART SUCCESS: THE AGONY OF HIV POSITIVE MARRIED WOMEN IN ZAMBIA. **79**
100. PREPARING COMMUNITIES FOR ART IN ZAMBIA; COMMUNITY EDUCATION AND REFERRAL-BASELINE SURVEY **79**
101. STUDY TO ASSESS THE KNOWLEDGE OF NURSES IN THE MANAGEMENT OF HIV POSITIVE PATIENTS ON ANTI RETROVIRAL THERAPY IN NDOLA DISTRICT OF ZAMBIA. **80**
102. EXPERIENCES FROM AN ART CLINIC IN RURAL ZAMBIA **81**
103. FORMALIZING REFERRAL NETWORKS: INCREASING ACCESS TO AND INTEGRATION OF HIV PREVENTION, CARE, TREATMENT AND SUPPORT SERVICES **82**
104. FAITH-BASED ORGANIZATIONS PLAY A MAJOR ROLE IN HIV/AIDS CARE AND TREATMENT IN SUB-SAHARAN AFRICA: ARHAP-WHO RESEARCH PROJECT: ZAMBIA AND LESOTHO **83**
105. CARING FOR THE CAREGIVERS IMPROVES ZAMBIAN AND SOUTH AFRICAN AIDS TREATMENT AND STRENGTHENS HUMAN HEALTH RESOURCES **84**
106. A COMMUNITY-BASED CONTACT TRACING PROGRAM FOR PATIENTS ENROLLED IN A DISTRICT-WIDE PROGRAM FOR ANTIRETROVIRAL THERAPY (ART) **84**
107. RAPID SCALE-UP OF ANTIRETROVIRAL SERVICES IN ZAMBIA: 1-YEAR CLINICAL AND IMMUNOLOGICAL OUTCOMES. **85**
108. RAPID DEPLOYMENT OF ANTIRETROVIRAL THERAPY (ART) SERVICES IS FEASIBLE AND EFFECTIVE IN RESOURCE-LIMITED SETTINGS IN SUB-SAHARAN AFRICA. **86**
109. CARE AND TREATMENT OF HIV-INFECTED FAMILIES IS FEASIBLE IN LUSAKA, ZAMBIA **87**
110. RAPID ASSESSMENT OF ANTI RETROVIRAL THERAPY (ART) SERVICES IN ZAMBIA **88**
111. CHALLENGES OF MANAGING TB AT KAMFINSA PRISON IN ZAMBIA **89**
112. A STUDY TO DETERMINE THE CONTRIBUTING FACTORS TO THE HIGH PREVALENCE OF TUBERCULOSIS AMONG NURSES IN THE UNIVERSITY TEACHING HOSPITAL IN LUSAKA, ZAMBIA **89**
113. INTEGRATION OF TUBERCULOSIS (TB) AND HIV CARE IN PRIMARY HEALTH CARE SERVICES IN LUSAKA, ZAMBIA **90**
114. VISUAL INSPECTION WITH ACETIC ACID (VIA) FOR CERVICAL CANCER SCREENING IN HIV-INFECTED ZAMBIAN WOMEN. **91**
115. SCREENING FOR TUBERCULOSIS (TB) IN HIV VOLUNTARY COUNSELING AND TESTING (VCT) SERVICES IN LUSAKA, ZAMBIA. **92**
116. CLINICAL OUTCOMES AMONG TB/HIV CO-INFECTED PATIENTS ENROLLED IN ANTIRETROVIRAL THERAPY (ART) IN LUSAKA, ZAMBIA. **92**
117. EARLY LESSONS FROM INTEGRATION OF TUBERCULOSIS AND HIV SERVICES IN PRIMARY CARE CENTERS IN LUSAKA, ZAMBIA **93**

118. CD4 T-CELL COUNT AND HIV-1 INFECTION IN ADULTS WITH UNCOMPLICATED MALARIA **94**
119. SCALING-UP HIV/AIDS AND TB HOME-BASED CARE:LESSONS FROM ZAMBIA **94**
120. LACK OF HEMATOLOGICAL RECOVERY AFTER SUCCESSFUL MALARIA TREATMENT IN HIV-1 INFECTED PATIENTS **95**
121. FACTORS ASSOCIATED WITH RISKY SEXUAL BEHAVIOUR IN REGARD TO HIV PREVENTION AMONG PERSONS ATTENDING STD CLINIC AT THE UNIVERSITY TEACHING HOSPITAL, LUSAKA **96**
122. FAVOURABLE CLINICAL OUTCOMES AMONG HIV/TB CO-INFECTED PATIENTS IN LUSAKA, ZAMBIA **97**
123. IMMUNODEFICIENCY VIRUS AND MALARIA INTERACTIONS: WHAT DO WE KNOW? WHAT ARE THE PUBLIC HEALTH IMPACTS IN ZAMBIA? **97**
124. ACUTE SEVERE PNEUMONIA IN PREVIOUSLY HEALTH ADULTS. IS IT EARLY SIGN OF HIV, AIDS? **98**
125. CAN TUBERCULOSIS RELAPSE BE PREDICTED? **99**
126. A CLINICAL AND PATHOLOGICAL STUDY OF CHILDREN WITH PNEUMOCYSTIS CARINII PNEUMONIA **100**
127. THE UNMET HEALTH NEEDS OF PLWHA IN MULTI-HEALTH DELIVERY SYSTEMS: A QUALITATIVE STUDY OF MEDICAL PLURALISM IN SELECTED DISTRICTS OF ZAMBIA **100**
128. AN ASSESSMENT OF FEMALE ADOLESCENT HEALTH SERVICES **101**
129. INNOVATIONS IN ARV COVERAGE FOR CHILDREN IN ZAMBIA THROUGH THE PALLIATIVE CARE SETTING **102**
130. CARING FOR HEALTH WORKERS: ADDRESSING PSYCHOSOCIAL BURDEN OF HIV/AIDS ON HEALTH PERSONNEL IN ZAMBIA **103**
131. DETERMINANTS OF HOSPICE USE AMONG TERMINALLY ILL PATIENTS IN LUSAKA ZAMBIA: A HIGH HIV PREVALENCE AND RESOURCE LIMITED SETTING **103**
132. COPING STRATEGIES OF FAMILIES LIVING WITH INDIVIDUALS SUFFERING FROM HIV/AIDS: A CASE STUDY OF KASAMA URBAN AND PERI-URBAN **105**
133. SECURITY OF WIDOWS' ACCESS TO LAND IN THE ERA OF HIV/AIDS: PANEL SURVEY EVIDENCE FROM ZAMBIA **105**
134. TRADITIONAL LEADERS AS KEY PLAYERS IN COMBATING HIV/AIDS A CASE BY WOMEN FOR CHANGE (WFC)WORK WITH THE TRADITIONAL LEADERS IN ZAMBIA **105**
135. A POLICY ANALYSIS FOR INTERVENTIONS TO BRIDGE THE GAP BETWEEN TRADITIONAL HEALERS AND THE PUBLIC SECTOR FOR HIV/AIDS CONTROL IN UGANDA AND ZAMBIA **106**
136. TRADITIONAL HEALERS CONTRIBUTING TO HIV/AIDS PREVENTION THROUGH CULTURAL CHANGE AND ADAPTATION - ZAMBIA CASE STUDY **107**
137. A PILOT RANDOMIZED TRIAL OF NUTRITIONAL SUPPLEMENTATION IN FOOD INSECURE PATIENTS RECEIVING ANTIRETROVIRAL THERAPY (ART) IN ZAMBIA **108**
138. A WORLD FOOD PROGRAM DONATION TO THE MTCT PLUS FAMILY ARV CENTER AT CHELSTONE CLINIC IN LUSAKA, ZAMBIA **109**
139. PSYCHOSOCIAL SUPPORT (PSS) FOR CHILDREN AND CAREGIVERS AFFECTED BY HIV/AIDS, POVERTY AND VIOLENCE. **110**
140. AN ASSESSMENT OF THE IMPACT OF PARTNERSHIP IN EDUCATIONAL PROVISION TO VULNERABLE HIV/AIDS-AFFECTED CHILDREN IN CHONGWE DISTRICT **111**
141. ORPHANED AND VULNERABLE CHILDREN IN ZAMBIA: THE IMPACT OF THE HIV/AIDS EPIDEMIC ON BASIC EDUCATION FOR CHILDREN AT RISK **111**
142. ORPHANED AND VULNERABLE CHILDREN IN ZAMBIA: THE IMPACT OF THE HIV/AIDS EPIDEMIC ON BASIC EDUCATION FOR CHILDREN AT RISK **112**
143. RESEARCH ON WHETHER STREET CHILDREN CAN BE RECONCILED BACK TO SOCIETY **113**
144. IT TAKES A VILLAGE TO RAISE A CHILD: COMMUNITY RESPONSE TO HIV/AIDS AND PLIGHT OF ORPHAN **114**
145. INSTITUTIONAL RESPONSES TO HIV/AIDS PREVENTION AND CONTROL AMONG CHILDREN ENGAGED IN CHILD LABOUR: THE CASE OF LUSAKA. **115**
146. EQUIPPING COMMUNITIES FOR LONG TERM CARE AND SUPPORT OF OVC AND FAMILIES IMPACTED BY HIV/AIDS: LESSONS LEARNED IN DEVELOPING AND SCALING UP A COMMUNITY CARE COALITION MODEL IN AFRICA **115**

147. SOCIAL NORMS, HUMAN RIGHTS AND PEOPLE LIVING WITH HIV/AIDS (PLWHA) IN RURAL COMMUNITIES OF ZAMBIA **116**
148. PSYCHOSOCIAL SUPPORT TO CHILDREN LIVING WITH HIV/AIDS AND THEIR CAREGIVERS TO REDUCE STIGMA: A PROGRAMME IN ZAMBIA **117**
149. MEASURING THE IMPACTS OF HIV/AIDS-RELATED DEATHS ON RURAL FARM HOUSEHOLDS IN ZAMBIA: IMPLICATIONS FOR POVERTY REDUCTION STRATEGIES **118**
150. SECURITY OF WIDOWS' ACCESS TO LAND IN THE ERA OF HIV/AIDS: PANEL SURVEY EVIDENCE FROM ZAMBIA **118**
151. URBAN FOOD SECURITY VULNERABILITY ASSESSMENT OF HIV AFFECTED HOUSEHOLDS **119**
152. TOO MANY JOBS, TOO FEW DOCTORS: PROBLEMS AND POSSIBLE SOLUTIONS FOR GOVERNMENT HEALTH INSTITUTIONS SHARING CLINICALLY TRAINED OFFICIALS WITH HIV/AIDS RESEARCH CENTRES **121**
153. ACCESS FOR ALL: CHALLENGES FOR AFRICA **122**
154. HIV/AIDS AND ECONOMIC GROWTH IN ZAMBIA **123**
155. THE COST OF HIV / AIDS AMONG PROFESSIONAL STAFF IN THE ZAMBIAN PUBLIC HEALTH SECTOR **124**
156. CAPACITY ISSUES IN THE PUBLIC HEALTH SECTOR: WHAT WE KNOW AND WHAT CAN BE DONE IN THE CONTEXT OF HIV, **125**
157. PROTECTING AFRICA'S WILDLIFE AND PARKS: "THE IMPACT OF AIDS ON THE ZAMBIA WILDLIFE AUTHORITY" **126**
158. ZAMBIA: DISTANCE-LEARNING COURSE FOR ANTIRETROVIRAL THERAPY PROVIDERS **126**
159. EMPLOYMENT OF OFF-DUTY STAFF AS A STRATEGY TO MEET THE HUMAN RESOURCE NEEDS OF AN EXPANDING PMTCT PROGRAM IN ZAMBIA. **127**
160. HIV/AIDS STRATEGIES LACK STRENGTH DUE TO INEFFECTIVE YOUTH CAPACITY-BUILDING AND UNDERUTILIZATION OF ICTS IN DEVELOPING COUNTRIES **128**
161. INTEGRATION OF HIV CARE AND OUTPATIENT SERVICES IN PUBLIC HEALTH CLINICS IN LUSAKA, ZAMBIA: LESSONS FROM IMPLEMENTATION PLANNING. **129**
162. EVALUATION OF POSITIVE LIVING ADVOCATES COURSE **130**
163. BUILDING HUMAN CAPACITY TO RESPOND TO HIV/AIDS- A CASE OF ZAMBIA **130**
164. BUILDING COMMUNITY MOBILISATION SKILLS AT SCALE: THE SYNERGY OF RADIO DISTANCE LEARNING AND THE ROLL-OUT OF A NATIONAL CURRICULUM FOR HEALTH WORKERS IN ZAMBIA **131**
165. COMMUNITY LEADERSHIP AND ACTION IN THE FIGHT AGAINST HIV/AIDS **132**
166. EMPOWERING A MULTI-SECTORAL RESPONSE TO HIV/AIDS AT THE DISTRICT LEVEL IN ZAMBIA **133**
167. CAPACITY ISSUES IN THE PUBLIC EDUCATION SECTOR: WHAT WE KNOW AND WHAT CAN BE DONE IN THE CONTEXT OF HIV/AIDS **133**
168. CAPACITY ISSUES IN THE PUBLIC AGRICULTURE SECTOR: WHAT WE KNOW AND WHAT CAN BE DONE IN THE CONTEXT OF HIV/AIDS **134**
169. IMPACT OF HIV/AIDS ON THE JUDICIAL SYSTEM IN THE REPUBLIC OF ZAMBIA **134**
170. MAINSTREAMING HIV AND AIDS INTO PARLIAMENTARY DIMENSIONS FOR FORWARD LOOKING STRATEGIES THAT COULD ENHANCE COMMITMENT, ACCOUNTABILITY AND TRANSPARENCY IN THE SOUTHERN AFRICAN REGION **135**
171. THE ECONOMIC IMPACT OF AIDS ON THE EDUCATION SECTOR OF ZAMBIA: APPLICATION OF THE ED-SIDA MODEL **136**
172. HIV/AIDS PREVENTION AND CARE AT INDENI **137**
173. PREVENTING HIV/AIDS TRANSMISSION IN THE ZAMBIA DEFENCE FORCE **137**
174. WHEN SCALING-UP IS THE ONLY ALTERNATIVE: EXPERIENCE WITH WORKPLACE HIV PROGRAMS IN ZAMBIA **138**
175. COMMUNICATION TOOLS USED AND THEIR HIV/AIDS PERCEIVED EFFECTIVENESS IN DISSEMINATING MESSAGES FOR THE WORKFORCE IN ZAMTEL **139**
176. PRINT MEDIA JOURNALISTS' INADEQUACIES IN THE COVERAGE OF HIV/AIDS **139**
177. THE ENCOUNTER BETWEEN SPORT AND HIV/AIDS: CRITICAL VIEW POINTS ON THE USE OF SPORT AS A VEHICLE FOR ADDRESSING HIV/AIDS **140**
178. ASSESSING NEEDS FOR HIV/AIDS WORKPLACE PROGRAMME **141**

179. FROM KNOWLEDGE/ATTITUDES TO PRACTICES: M&E FOR HIV/AIDS WORK WITH POLICE OFFICERS IN ZAMBIA **141**
180. GENDER IN THE ERA OF HIV/AIDS: FEELINGS OF ZAMBIAN HOSPITAL WORKERS **142**
181. IMPACT OF AIDS ON ZAMBIA'S TOURISM INDUSTRY: THE CASE OF LIVINGSTONE **144**
182. THE COMBINED EFFECT OF TREATMENT EFFICACY AND POPULATION COVERAGE ON PREVENTING MOTHER TO CHILD TRANSMISSION OF HIV **145**
183. PREVALENCE AND DISTRIBUTION OF HPV-GENOTYPING AMONG HIV-INFECTED WOMEN IN ZAMBIA. **146**
184. PRIORITIES FOR ANTIRETROVIRAL THERAPY RESEARCH IN SUB-SAHARAN AFRICA: A 2002 CONSENSUS CONFERENCE IN ZAMBIA **146**
185. A REVIEW OF POLICIES, GUIDELINES AND PROGRAMS IN VOLUNTARY OUNSELING AND TESTING (VCT) IN EAST, CENTRAL, AND SOUTHERN AFRICA (ECSA) **147**
186. FAVORABLE AND UNFAVORABLE HLA CLASS I ALLELES AND HAPLOTYPES IN ZAMBIA'S PREDOMINANTLY INFECTED WITH CLADE C HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 **148**
187. NATURAL HISTORY OF HIV IN A COHORT OF RECENTLY POSTPARTUM WOMEN AND THEIR INFANTS IN LUSAKA, ZAMBIA **149**
188. SHORT-TERM SAFETY AND ACCEPTABILITY OF THE INTRAUTERINE CONTRACEPTIVE DEVICE IN HIV-INFECTED POSTPARTUM WOMEN: A RANDOMISED TRIAL. **150**
189. ESTIMATES OF ADULT MORTALITY FROM CENSUS DATA IN ZAMBIA IN THE ERA OF HIV **151**
190. THE ANNUAL JOINT REVIEW OF ZAMBIA'S NATIONAL AIDS PROGRAMME **151**
191. ALLOCATING RESOURCES FOR HIV/AIDS PREVENTION, CARE AND TREATMENT IN ZAMBIA **152**
192. OPERATIONALISING THE THREE ONES IN RESOURCE-POOR SETTINGS: COORDINATING MULTIPLE PARTNERS IN ZAMBIA **153**
193. ANTE-NATAL CLINIC-BASED HIV PREVALENCE IN ZAMBIA: DECLINING TRENDS BUT SHARP LOCAL CONTRASTS IN YOUNG WOMEN. **154**
194. UNDERSTANDING THE DYNAMICS OF HIV/AIDS AND FAMILY PLANNING AT THE COMMUNITY LEVEL IN ZAMBIA **154**
195. PROJECTING PERFORMANCE MEASURES AND COSTS OF ALTERNATIVE HIV RAPID TEST STRATEGIES **155**
196. PREVALENCE AND PREDICTORS OF SQUAMOUS INTRAEPITHELIAL LESIONS OF THE CERVIX IN HIV-INFECTED WOMEN IN LUSAKA, ZAMBIA **156**
197. FACTORS INFLUENCING REPRODUCTIVE DECISION MAKING OF HIV POSITIVE WOMEN **157**
198. INCIDENCE AND PREDICTORS OF HEPATOTOXICITY AMONG PATIENTS RECEIVING NEVIRAPINE (NVP)-CONTAINING ANTIRETROVIRAL THERAPY (ART) IN ZAMBIA. **157**
199. IMPACT OF AN INTERVENTION ON ATTITUDES TO AND PRACTICE OF COLLABORATION BETWEEN TRADITIONAL HEALERS AND BIOMEDICAL WORKERS FOR IMPROVED QUALITY OF STI/HIV/AIDS SERVICES **158**
200. ZAMBIA ANTE-NATAL CLINICAL SENTINEL SURVEILLANCE REPORT. KALA AND MWANGE REFUGEE CAMPS 2005 **159**
201. A TEST OF THE NEW VARIANT FAMINE HYPOTHESIS IN ZAMBIA **160**
202. MARKED HIV PREVALENCE DECLINES IN HIGHER EDUCATED YOUNG PEOPLE: EVIDENCE FROM POPULATION-BASED SURVEYS (1995-2003) IN ZAMBIA **161**
203. STEEP HIV PREVALENCE DECLINES AMONG YOUNG PEOPLE IN SELECTED ZAMBIAN COMMUNITIES: POPULATION-BASED OBSERVATIONS (1995-2003) **161**
204. TREATMENT OF INTESTINAL HELMINTHS DOES NOT REDUCE PLASMA CONCENTRATIONS OF HIV-1 RNA IN COINFECTED ZAMBIAN ADULTS **162**
205. PREVALENCE AND PREDICTORS OF INTESTINAL HELMINTH INFECTIONS AMONG HUMAN IMMUNODEFICIENCY VIRUS TYPE 1-INFECTED ADULTS IN AN URBAN AFRICAN SETTING **163**
206. COST AND ENROLLMENT IMPLICATIONS OF TARGETING DIFFERENT SOURCE POPULATION FOR AN HIV TREATMENT PROGRAM **163**
207. POTENTIAL COST-EFFECTIVENESS OF MATERNAL AND INFANT ANTIRETROVIRAL INTERVENTIONS TO PREVENT MOTHER-TO-CHILD TRANSMISSION DURING BREAST-FEEDING. **164**

208. SIMPLE ASSESSMENTS OF ADHERENCE TO ANTIRETROVIRAL THERAPY PREDICT VIROLOGIC FAILURE IN HIV-INFECTED PATIENTS IN LUSAKA, ZAMBIA. **165**
209. CHILDREN ENROLLED IN A PUBLIC HIV CARE AND TREATMENT PROGRAM IN LUSAKA, ZAMBIA: RAPID SCALE-UP AND FIRST-YEAR CLINICAL OUTCOMES. **166**
210. A RANDOMIZED TRIAL OF THE INTRAUTERINE CONTRACEPTIVE DEVICE VS HORMONAL CONTRACEPTION IN WOMEN WHO ARE INFECTED WITH THE HUMAN IMMUNODEFICIENCY VIRUS **166**
211. EARLY CLINICAL AND IMMUNE RESPONSE TO NNRTI-BASED ANTIRETROVIRAL THERAPY AMONG WOMEN EXPOSED TO SINGLE-DOSE NEVIRAPINE FOR PREVENTION OF MOTHER-TO-CHILD HIV TRANSMISSION. **167**
212. INFLUENCE OF BMI ON PREGNANCY OUTCOMES OF HIV-INFECTED AND -UNINFECTED ZAMBIAN WOMEN. **168**
213. WEALTH AND EXTRAMARITAL SEX AMONG MEN IN ZAMBIA **168**
214. HIV TYPE 1 INFECTION IS A RISK FACTOR FOR MORTALITY IN HOSPITALIZED ZAMBIAN CHILDREN WITH MEASLES **169**
215. THE INFLUENCE OF HIV-1 EXPOSURE AND INFECTION ON LEVELS OF PASSIVELY ACQUIRED ANTIBODIES TO MEASLES VIRUS IN ZAMBIAN INFANTS **170**
216. REDUCING UNCERTAINTIES IN GLOBAL HIV PREVALENCE ESTIMATES: THE CASE OF ZAMBIA **170**
217. HIV-1 SEROPREVALENCE AMONG PAEDIATRIC ADMISSIONS AT THE UNIVERSITY TEACHING HOSPITAL (UTH) – LUSAKA **171**
218. LUUMBO ADP HIV, AIDS BASELINE SURVEY -GWEMBE DISTRICT **172**
219. 2006 BASELINE SEXUAL BEHAVIOUR SURVEY AMONG UNIVERSITY OF ZAMBIA STUDENTS **173**
220. HIV AND SYPHILIS TESTING IN THE ZAMBIA DEMOGRAPHIC HEALTH SURVEY (ZDHS PLUS) 2001-2002 **173**
221. HELMINTHIC INFECTIONS HAVE A MAJOR IMPACT ONTHE PATHOGENESIS AND VACCINATION AGAINST HIV INFECTION: SHOULD WE DE-WORM THE POPULATIONS? **174**
222. GENITAL HERPES AND HIV CO-INFECTION IN LUSAKA ZAMBIA **175**
223. DOSE DEPENDANT EFFICACY OF SP-IPT FOR MALARIA IN PREGNANCY AMONG HIV INFECTED ZAMBIAN WOMEN. **175**
224. AN OPEN OBSERVATIONAL AND EXPLORATORY CLINICAL TRIALS ON THE SAFETY AND EFFICACY OF THE THREE ZAMBIAN TRADITIONAL HERBAL MEDICINES IN HIV POSITIVE INDIVIDUALS **176**
225. REDUCTION IN PRE-TERM DELIVERY AND NEONATAL MORTALITY AFTER THE INTRODUCTION OF ANTEPARTUM CO-TRIMOXAZOLE PROPHYLAXIS AMONG HIV-INFECTED WOMEN WITH LOW CD4 CELL COUNTS. **177**
226. INCREASES IN HIV PREVALENCE AND PRIOR TESTINGAT A COUPLES VOLUNTARY COUNSELLING AND TESTING AND RESEARCH CENTER IN LUSAKA, ZAMBIA **178**
227. RESEARCH INITIATIVE IN TRADITIONAL ANTIMALARIALS AND ANTI-HIV, AIDS IN ZAMBIA **178**
228. KNOW YOUR HIV AND AIDS EPIDEMIC IN ZAMBIA **179**
229. HUMAN-RIGHTS BASED APPROACHES TO HIV/AIDS IN TWO AFRICAN COUNTRIES **181**
230. THE ROLE OF FAITH-BASED ORGANIZATION'S IN HIV/AIDS ADVOCACY AND POLICYMAKING **182**
231. HIV/AIDS IMPACT ON THE ZAMBIAN HEALTH SYSTEM **183**
232. GENDER-BASED ABUSES AND WOMEN'S HIV TREATMENT IN ZAMBIA **183**
233. THE IMPACT OF HIV/AIDS AND AIDS POLICIES ON WORKERS AND CAREGIVERS OF FBOS AND NGOS IN ZAMBIA AND ZIMBABWE, **184**
234. TRACKING GLOBAL FUND POLICY PROCESSES IN FOUR AFRICAN COUNTRIES **185**
235. A REVIEW OF POLICIES, GUIDELINES AND PROGRAMS IN VOLUNTARY COUNSELING AND TESTING (VCT) IN EAST, CENTRAL, AND SOUTHERN AFRICA (ECSA) **186**
236. REDUCTION IN PRE-TERM DELIVERY AND NEONATAL MORTALITY AFTER THE INTRODUCTION OF ANTEPARTUM CO-TRIMOXAZOLE PROPHYLAXIS AMONG HIV-INFECTED WOMEN WITH LOW CD4 CELL COUNTS. **187**

## 1.0 INTRODUCTION

As reflected in its First National Development Plan in 1969, the Government of the Republic of Zambia recognized the importance of integrating science and technology into national development. This was corroborated by the establishment of the National Council for Scientific Research (NCSR) along with a whole range of Research and Development (R&D) Institutions. At the time of conception, NCSR functioned as an R&D institution as well as a coordinating body on all matters relating to scientific research and technological development.

Owing to weak statutory linkages with other research institutions in the country, the dual functions of the NCSR were challenged. In 1994 recommendations were made to separate the two functions of NCSR in order to give rise to two separate institutions. This led to the formulation of the National Policy on Science and Technology in 1996. In 1997 the Science and Technology Act was enacted. Through this Act the National Science and Technology Council (NSTC) was created to function as a research co-coordinating body and the National Institute for Scientific and Industrial Research (NISIR) was formed to continue with scientific and industrial research.

Therefore, at national level, all scientific research and technological development is coordinated by NSTC through the annual registration of R&D institutions and consequently monitoring them.

The Directorate of Public Health and Research at the Ministry of Health (MOH) oversees all health research in the Country. To facilitate better coordination of research in the country, the MOH has appointed a National Health Research Advisory Committee (NHRAC) whose main mandate is to provide advice to the MOH on all health issues of national importance and coordination of health research in order to link health research to policy and programming. The committee reports directly to the Director of Public Health and Research.

Further, within the MOH, the directorate of Policy is responsible for formulation and implementation of health policies. Through this directorate, the MOH has developed a draft National Health Research Policy (NHRP). This will provide a framework for guiding and implementing all research involving human subjects including research on HIV/AIDS/STI/TB.

Research on HIV/AIDS/STI/TB is coordinated by the National HIV/AIDS/STI/TB Council (NAC) which was established in 2002 by an Act of Parliament to coordinate and support the development of national multisectoral response for the prevention and combating HHIV and AIDS and other related diseases, and to reduce the personal, social and economic impacts of HIV and AIDS

NAC has four directorates which include the Monitoring and Evaluation Directorate (M&E). One of the strategic objectives of this directorate is to strengthen operational and behavioural research and access to information on best practices and cost effective interventions with the following twelve core strategies;

- Develop a national HIV and AIDS research strategy that will contain a clear research agenda

- Establish links with research institutions and will promote cooperation between research agencies to maximize utilization of research findings
- Implement appropriate ethical review prior to research being undertaken, approve research
- Encourage, support and strengthen research related to HIV/AIDS/STI/TB by both local and international researchers
- Support identified priority health research and application of research findings
- Promote research in traditional/alternative remedies
- Provide appropriate infrastructure and findings for HIV/AIDS/STI/TB research programmes
- Encourage collaboration and coordination between and among local and international researchers
- Ensure Zambia's participation in vaccine development in partnership with international health research institutions
- Invest in appropriate infrastructure and human resources that are requisite for vaccine development and clinical trials
- Negotiate for preferential access to outcomes of vaccine research
- Organize HIV and AIDS research dissemination seminars where all new biomedical and social research relating to HIV and AIDS will be disseminated

These strategies govern all other activities that relate to strengthening operational and behavioural research and access to information on best practices and cost effective interventions.

In an effort to link health and HIV and AIDS, STIs and TB research in particular, to policy and programmes, in 1998, the MOH and its partners initiated a process of setting up a National Health Research Agenda which outlines health research priorities (MoH/CBoH 1999). This process involved several steps including development of an Annotated Bibliography which should be updated regularly.

To date, two comprehensive Annotated Bibliography Volumes have been produced consisting of abstracts of studies on priority public health identified areas in Zambia. The first and second volumes were produced in 1998 and 2000 respectively by MoH/CBoH. Each of these volumes contains abstracts of studies conducted on HIV and AIDS, Sexually Transmitted Diseases, Tuberculosis, Reproductive Health, Orphans, Child Health, Malaria, Nutrition Health Systems, Water and Sanitation and other health related studies.

In addition to the two volumes, UNICEF in 1996 produced an HIV and AIDS specific Annotated Bibliography. This particular volume is the second in the series and builds on the earlier works by MoH (1998 and 200) and UNICEF (1996). It gives a rich overview of HIV and AIDS, STIs and TB research conducted in Zambia between 2001 and 2007. It also identifies past and current trends and characteristics of research in the country. This information enables us to understand where we are in terms of HIV and AIDS, STIs and TB research in Zambia in order to determine research agenda and priorities.

## 2.0 METHODOLOGY

The National AIDS Council through a consultancy undertook the task of collecting, reviewing and documenting existing HIV and AIDS, STIs and TB research studies including vaccine trials that have been conducted in Zambia between the periods 2001 to 2007. The basic methodological concept was developed around the fact that both local and international institutions as well as individual researchers have generated a wealth of information through research on HIV, AIDS, STIs and TB in Zambia

Sources of data for abstracts included in this book included:

- University of Zambia (UNZA) Library and Institute of Economic and Social Research (INESOR) Library
- Institutions undertaking studies on HIV/AIDS/STI and TB
- Personal research networks to the authors
- Various websites on the internet including the last three International Conferences on AIDS in Africa
- Implementers meetings for PEPFAR
- Abstract Books for various conferences in Zambia
- Local and International Journals
- Research Ethics Committee and Graduate Student Research

Further to that, there were a number of challenges faced in the course of compiling this book. Predominantly among them were a lack of an effective system of collecting and retrieving research information

Identification of materials in this report largely depended on the authors' knowledge about various sources of research information on HIV and AIDS, STIs and TB. Another challenge was that the assignment was conducted during the Christmas and New Year festive period, making it difficult to effectively engage research focal persons in various prospective institutions.

Most research institutions including NAC lack functional resource centre and or data bank containing research information done in the period 2001-2007

Based on these challenges, it is highly recommended that NAC, MOH and key research institutions build functional resource centres and research data banks with relevant interlinkages. To facilitate this process a network of researchers should be established to develop mechanisms for harnessing and disseminating their institutional and individual work.

## 3.0 ABSTRACTS

There are 232 abstracts of study reports on HIV/AIDS/STI/TB in this book and have been categorised as much as possible according to the six thematic areas that represent priority action areas in the National HIV and AIDS Strategic Framework 2006-2010. The Themes in themselves are multi-dimensional and multi-sect oral in nature and are as follows:

- I. Intensifying prevention of HIV
- II. Expanding treatment, care and support for people affected by HIV and AIDS
- III. Mitigating the socio-economic impact of HIV and AIDS
- IV. Strengthening and decentralised response by mainstreaming HIV and AIDS
- V. Improving the capacity for monitoring by all partners
- VI. Integrating advocacy and coordination of the multi-sect oral response

Under each one of these Themes, are strategic objectives that address specific areas of action. Abstracts have further been sub-categorised into strategic objectives they best address. It is acknowledged that some abstracts are cross-cutting.

### 3.1. THEME I. INTENSIFYING PREVENTION OF HIV

The overall objective under the theme of **Intensifying Prevention of HIV and AIDS** is to strengthen communication and promotive activities in order prevent and control HIV and STIs. The following are the strategic objectives under this theme:

- i. Prevent sexual transmission of HIV with a special emphasis on youth, women and high risk behaviours.
- ii. Prevent mother to child transmission
- iii. Prevent HIV transmission through blood and blood products
- iv. Prevent HIV transmission in health care and other care settings and promote access to post exposure prophylaxis treatment
- v. Improve access to and use of confidential counseling and testing
- vi. Mitigate stigma and discrimination against HIV
- vii. Prevent HIV transmission through intravenous drug use
- viii. Support development and participation in HIV vaccine clinical trials

This section consists of abstracts that addresss the forgoing strategic objectives.

***Strategic objective 1: Prevent sexual transmission of HIV with a special emphasis on youth, women and high risk behaviours***

- |                  |  |
|------------------|--|
| <b>1. TITLE:</b> | <b>KNOWLEDGE, ATTITUDE AND PRACTICES OF GRADE 12 PUPILS ON HIV/AIDS IN CHINGOLA DISTRICT, ZAMBIA</b> |
| <b>Authors:</b>  | Chikafuna J. B <sup>1</sup> , Andy B <sup>2</sup> and Zeleke W <sup>2</sup>                          |
| <b>Year:</b>     | 1997 and 2004  |
| <b>Org/Inst:</b> | <sup>1</sup> Chingola Health Board, Zambia and <sup>2</sup> University of Pretoria, South Africa     |

**Status:** Published in and Abstract Book, 4<sup>th</sup> National Health Research Conference  
**Study site(s):** Chingola  
**Source:** Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objective:** To identify factors that strongly affects HIV/AIDS awareness and influence sexual behaviour among Grade 12 High School pupils.

**Methodology:** A total of 262 pupils completed a self-administered structured questionnaire. Ethical approval was done and permission from institutions was granted. Logistic regression analysis of outcome variables was conducted on independent variables on HIV/AIDS prevention and transmission.

**Results:** The respondents composed of 54.96% (144) females and 45.04% (118) males. Forty one (15.65%) were not aware that HIV/AIDS has no cure. The proportion of sexually active pupils was 26.72% compared to similar studies done in Zambia in 1997 and 2004 which was 60% and 67% respectively. Respondents with a perception that people with HIV/AIDS have been bewitched are 3.88 times more likely to lack HIV/AIDS awareness (HIV/AIDS has no cure) compared to respondents who perceive otherwise ( $p=0.019$ ). Males are 3.86 times more likely to be *sexually active* than females ( $p=0.000$ ). Respondents from low to medium cost residences are 3.70 times more likely to be *sexually active* compared with respondents from high cost residences ( $p=0.006$ ). Respondents whose parents or guardians were not employed were 3.12 times more likely to be sexually active compared with respondents whose parents or guardians were employed ( $p=0.044$ ). Respondents with a perception that healthy young people do not get HIV/AIDS are 2.45 times more likely to be sexually active compared with respondents who perceive otherwise ( $p=0.026$ ). Males were 13.49 times more likely to approve sex before marriage compared with females ( $p=0.043$ ).

**Conclusion:** Pupils' knowledge levels were adequately high. Lack of awareness (HIV/AIDS has no cure) was strongly associated with the belief that people with HIV/AIDS have been bewitched. Attitudes and practices were strongly associated with; type of residence, employment status of parents or guardians and the sex of the respondent.

**2. TITLE:** THE USE OF MICROBIOCIDES IN THE PREVENTION OF TRANSMISSION OF HIV/AIDS IN ZAMBIA.  
**Authors:** Mukuka R.  
**Year:** 2007  
**Org/Inst:** Gender and Media in Southern Africa (GEMSA – ZAMCOM)  
**Status:** Published in and Abstract Book, 4<sup>th</sup> National Health Research Conference  
**Study Site(s):** Mazabuka  
**Source:** Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** To undertake research on the effectiveness in the use of microbes for female prevention of the contraction of HIV/AIDS in the first month of the project; to formulate training and educational programmes for media personnel on the effectiveness of microbiocides.

Beneficiary: The General Public, Journalists and the Community Media.

**Methodology:** The project will entail a research trip to Mazabuka where there are clinical trials of the use of microbiocides in the female prevention of HIV/AIDS here in Zambia.

This will include Pre- Research Planning (PRP), Data Collection (DC), Data Analysis (DA) and Formulation Advocacy & Training.

**Results:** The second phase of the project will formulate (a) Training and (b) Advocacy for the journalist and community media. Based on the research findings training for media personnel will be formulated and implemented for journalists from mainstream and community media.

**Training:** This training will sensitise journalist on the advantage and opportunities for women use of microbiocides in the prevention of transmission of HIV/AIDS. The objective will be to sensitise trainees and stimulate them to propaganda using the media in the promotion of the use of microbiocides.

**Advocacy:** The trainees will then produce 5 feature articles or documentaries, promoting the use of microbiocides, and then will be publicized using the media

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<b>3. TITLE:</b>	<b>SHORT-TERM SAFETY AND ACCEPTABILITY OF INTRAUTERINE CONTRACEPTIVE DEVICE IN HIV-INFECTED POSTPARTUM WOMEN: A RANDOMIZED TRIAL</b>
<b>Authors:</b>	Kaseba C <sup>1</sup> , Sinkala M <sup>2</sup> and Stringer E <sup>3</sup> <i>et al</i>
<b>Year:</b>	2002-2003
<b>Org/Inst:</b>	<sup>1</sup> University Teaching Hospital, Department of Obstetrics and Gynaecology, <sup>2</sup> Lusaka District Health Management Board and <sup>3</sup> Center for Infectious Disease Research in Zambia
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	Lusaka Urban Clinics
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Methodology:** Between Jun 2002 and Oct 2003, we randomised 599 HIV-infected women in Lusaka, Zambia to receive either the IUD (Para Guard TCu 380A, n=297) or “user’s choice” hormonal contraception (oral or inject able, n=302) Standardized follow-up, including detailed assessment for PID, occurs at 1, 6, 12, 18, & 24 months, and is ongoing. All women have reached the 1 mo visit.

**Background:** The copper intrauterine device (IUD) is among the most effective contraceptives known, but the WHO and others have recommended against its use in HIV-infected women due to a theoretical risk of Pelvic Inflammatory Disease (PID). Most IUD-attributable PID occurs within one month of insertion.

**Results:** At enrolment (4-8 wks postpartum), there were no statistically significant differences between randomisation groups in age, parity, income, marital status, education, tribe, BMI, CD4 count, or hematocrit. Mean CD4 for the entire cohort was 505 cells/mm<sup>3</sup> (standard dev = 258). 58 (9.8%) women had CD4 < 200. At 1 month, 1 woman in the IUD arm met criteria for PID compared to 0 in the hormonal arm (p = NS). The woman with PID presented with abdominal pain and discharge prompting IUD removal. Cultures were positive for Chlamydia. The patient received oral antibiotics and did not develop fever. Other reported minor side effects at 1 month were rare and did not differ by randomisation arm (IUD vs. hormonal): abdominal pain (3.8% vs. 2.5%), pelvic pain (0.4% vs. 0%), discharge (2.1% vs. 0.4%), nausea or vomiting (0.7% vs. 0%), irregular bleeding (2.4% vs. 2.5%) or headache (1.7% vs. 2.5%). Two patients (1 IUD, 1 hormonal) discontinued contraception after their newborns died. Two patients randomised to the hormonal arm switched to the IUD arm, and one patient randomised to IUD switched to oral contraceptives. There were no IUD expulsions.

**Interpretation:** The rate of IUD-attributable PID in HIV-infected women through 1 month of placement was 0.3%. The IUD appears to be a safe and acceptable method of contraception for HIV infected women.

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<b>4. TITLE:</b>	<b>DETERMINANTS OF UNSAFE SEX BEHAVIOUR AMONG THE YOUTH IN RELATION TO HIV/AIDS PREVENTION IN LUSAKA URBAN BASIC SCHOOLS</b>
<b>Authors:</b>	Sakuwaha A. C.
<b>Year:</b>	2004
<b>Org/Inst:</b>	The University of Zambia, School of Medicine
<b>Status:</b>	Published
<b>Study Site(s):</b>	Lusaka Urban
<b>Source:</b>	The University of Zambia, School of Medicine

**Study Design:** A cross section and comparative study design was carried out in 22 basic schools in Lusaka Urban among the youth attending grades 7, 8 and 9. Setting: The study was carried out in Lusaka Urban, which has the highest HIV/AIDS prevalence rate of 22% in Zambia.

**Objective:** To determine the factors associated with unsafe sexual behaviour among the youth aged 13 to 19 years, in the prevention of HIV/AIDS in Lusaka Urban.

Subjects: The study focused on the youth who are the future leaders and yet affected by the great HIV/AIDS epidemic. A total sample size of 319 youth (160 males and 159 females) aged 13 to 19 years in Grades 7, 8 and 9 selected from a line list of 25093 youth by using EPI 6 statistical calculator the study sample was selected. The subject from different schools were proportionately and conveniently selected and involved in the study.

Perceived risk: The youth who were at higher risk of contracting HIV/AIDS were found to be more involved in premarital sex than the youth who did not know that they were at risk of contracting HIV/AIDS ( $P=0.005$ ).

**Results:** Knowledge about HIV/AIDS: More condom users than non-users knew about HIV/AIDS could be cured ( $P=0.034$ ).

Safer sex: More males preferred masturbation than females ( $P=<0.001$ ). Most male youths did not like condoms because they were big and described them as –eating a banana with its peel”. Cultural factors: Significantly more condom users than non-condom users were exposed to traditional initiation ceremonies ( $P=0.032$ ).

Source of information: The majority of the youth got information about safer sex from media as compared to health institutions.

**Conclusion:** Most factors under social demographic knowledge and culture were significantly associated with unsafe sex behaviour among the youth.

**Recommendations:** In accordance with the findings it is therefore recommended that Ministries of Education and Health should collaborate effectively and utilize the identified factors to mitigate the HIV/AIDS epidemic among the youth through education and material support. Lastly a countrywide study should be conducted to determine the sexual behaviour of the youth in schools and develop strategies to reduce HIV/AIDS epidemic in Zambia.

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<b>5. TITLE:</b>	<b>THE AFRICAN CHILD IN PERSPECTIVE; TOO YOUNG TO BE DEFILED IN AN ERA OF HIV/AIDS</b>
<b>Authors:</b>	Chishimba S and Zulu F
<b>Year:</b>	2005

**Org/Inst:** Commonwealth ACT-Zambia  
**Status:** Published The XV International AIDS Conference: Abstract no. ThPeC7548  
**Study Site(s):** Lusaka  
**Source:** The XV International AIDS Conference: Abstract no. ThPeC7548

**Issues:** Zambia has an estimated adult HIV prevalence rate of 20%. In order to protect the future generation, Prevention of Mother-to-Child Transmission of HIV (PMTCT) has been an important component of the national HIV/AIDS/STI/TB strategic framework. The increase in child defilement cases, which have dominated front pages of the media, are of concern. These acts are attributed to traditional beliefs perpetuated by traditional healers, that if an HIV positive adult has sex with a baby or young kid, sero-conversion takes place. These cases are off setting the gains being made in PMTCT. Lack of adequate legislation on child defilers, has resulted in many culprits being convicted to mockery one-day sentences.

**Description:** Commonwealth ACT (CACT) has been coordinating five community schools with a population of 2, 000 OVCs. In addition to this, CACT has been sensitising communities to absorb OVCs in the extended family structure to reduce streetism. To motivate extended families that have integrated OVCs in their structures, food is distributed to them every month with support from PCI. Unfortunately, some foster parents are sexually abusing children, infecting some with STIs and/or HIV. Worse enough, child defilement cases in Zambia, even in stable homes are on the rise. Advocacy against lighter convictions has been mounted.

**Lessons learned:** Lack of legislation on child defilement would exacerbate the situation. In addition, if traditional healers are not sensitised, the scourge would continue.

**Recommendations:** Stiffer punishment of up to life imprisonment will deter perpetrators from defiling children and wilfully infecting them with HIV and other STIs. The current call by the Republican President for parliament to introduce laws to give stiffer punishment to child defilers should be the focus of advocacy work to parliamentarians.

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**6. TITLE:** CULTURAL, ECONOMIC, ENVIRONMENTAL AND PERSONAL FACTORS AFFECTING ADOLESCENT SEXUAL ATTITUDES AND BEHAVIOR IN ZAMBIA  
**Authors:** Slonim-Nevo V<sup>1</sup> and Mukuka L<sup>2</sup>  
**Year:** 2004  
**Org/Inst:** <sup>1</sup>Ben-Gurion University of the Negev, Beer Sheva, Israel;  
<sup>2</sup>University of Zambia, Lusaka, Zambia  
**Status:** Published in the XIV International AIDS Conference: Abstract no. E11589  
**Study Site(s):** National  
**Source:** The XIV International AIDS Conference: Abstract no. E11589

**Background:** The AIDS epidemic in Zambia has reached major proportions relative to other nations. The tendency to engage in sexual activities at a young age, the social, economic and environmental conditions in Zambia which restrict safe sexual behaviour and the lack of easy access to condoms imply that adolescents in Zambia are at a great risk of contracting AIDS.

**Objective:** In response to this situation, a team of social scientists carried out a five-year research project to study the level of AIDS-related knowledge, attitudes, and behaviour of female and male adolescents in urban and rural Zambia. This study examines the impact of

cultural, economic, familial and personal factors on adolescent AIDS-related knowledge, attitudes and sexual behaviour in Zambia. The sample (N=3,360) includes in-school and out-of-school adolescents, rural and urban adolescents, and married and unmarried adolescents.

**Results:** The results of the multi-variate analyses indicate that street adolescents, adolescents who are older, who reside in rural areas, who are married, and who were abused by a family member tend to engage in more high-risk behaviours. Moreover, although AIDS-related knowledge, attitude, and self-efficacy had a significant effect on the engagement in high-risk behaviour (less knowledge about AIDS, negative attitudes towards AIDS prevention, and lower self-efficacy regarding AIDS prevention predict a high level of engagement in high-risk behaviours), the results indicate that these AIDS-related variables add only 2.2% of explained variance beyond the socio-demographic variables, which explains 20.6 % of the variance.

**Conclusions:** Thus, these results suggest that AIDS prevention for adolescents in Zambia should focus on specific programs for identifying groups at risk (out-of-school, married, and rural adolescents) rather than focusing on providing knowledge about AIDS to the general population.

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7. **TITLE:** IS SEXUAL HARASSMENT A REALITY IN ACADEMIC? A PILOT STUDY OF THE UNIVERSITY OF ZAMBIA.  
**Authors:** Shilika, Menon and Ngoma *et al.*  
**Year:** 2007  
**Status:** Completed and yet to be polished  
**Study Site(s):** University of Zambia  
**Inst/ Org:** University of Zambia  
**Source:** University of Zambia

**Main Objective:** To explore the perspective of staff and students on the occurrence of sexual harassment at the University of Zambia.

**Key findings:** The results of the study indicated that sexual harassment does occur among the different categories of UNZA community. 37% of the participants reported having been sexually harassed. All categories of participants perceived \_sane but not \_a lot of sexual harassment occurring at UNZA. 42.7% of the female students perceived \_a lot of sexual harassment occurring at UNZA.

**Recommendations:** The problem of sexual harassment at UNZA should not be underestimated. It is also important that a policy on sexual harassment should be followed by students and the staff who are victims of sexual harassment be established.

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8. **TITLE:** INCREASING YOUNG MEN'S PARTICIPATION IN RH THROUGH SOCCER CAMPS  
**Authors:** Bwalya C. M<sup>1</sup> and Hachonda H. M<sup>2</sup>  
**Year:** 2004  
**Org/Inst:** <sup>1</sup>Youth Activists Organisation, Lusaka, Zambia; <sup>2</sup>Zambia Integrated Health Programme, Lusaka, Zambia  
**Status:** Published in The XV International AIDS Conference: Abstract no. TuPeD4965  
**Study Site(s):** Rural Zambia  
**Source:** The XV International AIDS Conference: Abstract no. TuPeD4965

**Issue:** Among those Zambians now over the age of 15, nearly one out of every 5 is HIV positive. Young men are more likely to infect their partners with STI/HIV/AIDS than women. Many young men lack information not only on SRH but also on critical life skills such as negotiation, decision making, and condom usage.

**Description:** The Youth Activists Organisation (YAO), an NGO managed by youth, runs the RH Camps Targeting 50 boys aged 14 - 24 years both in and out of school. It aims to increase men's participation in sexual and reproductive health, HIV/AIDS prevention, family planning and child health issues in the family. Also targeting the participants' parents, CBOs, NHCs, men and women within and around the community. The Camp reaches out to young women to change their attitudes and behaviour, foster communication and share responsibility to bring about sustainable improvements in gender relations. Awareness and educational messages are integrated, such as enhanced football (soccer) training and SRH education. Other activities include mobile video shows and discussions in the community.

**Lessons learned:** YAO reaches an average of 7,000 people in a particular community within a week, with consistent messages on RH. Awareness of reproductive health knowledge and contraceptive methods increased in campaign areas. Greater youth participation in community affairs, as well as an increase in traditional leaders getting involved in community health issues. Awareness on transmission and prevention of HIV increased, whilst engaged couples reported for VCT.

**Recommendations:** Youth involvement in the fight against HIV/AIDS increases the reach and impact of reproductive health interventions directed to young men in the rural areas where there is the least reproductive health information.

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9.	<b>TITLE:</b>	ZAMBIAN ADOLESCENTS KNOWLEDGE SOURCES FOR HIV/AIDS AND THEIR SEXUAL RISK
	<b>Authors:</b>	Mwanayanda L. <sup>1</sup> , Clark L.F <sup>2</sup> , Campo D. <sup>1</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	-
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDC0714
	<b>Study Site(s):</b>	Kitwe
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDC0714

**Background:** HIV prevalence in Sub-Saharan Africa remains high, despite widespread knowledge of HIV/AIDS. The practice of multiple sex partners is common, especially among young individuals. Less than one third of non-married women and 42% of non-married men report condom use at last intercourse. This study examines sexual onset among Zambian youth as a function of sources of HIV/AIDS knowledge.

**Methodology:** 392 high school students (ages 12-19) from high schools in urban Kitwe and peri-urban Copperbelt completed self-administered questionnaires on HIV/AIDS knowledge and their sexual activity. Sources of knowledge included media (HIV programs on radio or TV), knowing someone who died of AIDS, and discussing AIDS with a) parents, b) teachers, and c) friends.

**Results:** Most adolescents had heard of HIV (97%) and 74% had known someone who died of AIDS. While 92% had spoken to a friend, and 84% had talked with a teacher, fewer had spoken with their parents (47% of males; 58% of females). A multiple linear regression analysis, controlling for age, gender and other predictors found that accurate knowledge about HIV transmission was predicted by knowing someone who died of AIDS ( $p < .04$ ). A

logistic regression examining sexual initiation using these same predictors found that younger age ( $p < .0001$  odds ratio = 1.48, CI = 1.22, 1.62) and discussing AIDS with parents ( $p < .05$  odds ratio = .59, CI = .35, .99) were predictive of being a virgin (58% of virgins had discussions vs. 47% of non-virgins;  $p < .03$ ). Being a virgin was associated with gender (65% of males; 77% of females).

**Conclusions:** The Copperbelt of Zambia, a high prevalence and low resource area, needs HIV prevention efforts for adolescents. Parental discussions of AIDS was associated with less sexually active youth. Parent-based interventions, effective in the U.S., may also delay sexual onset in Zambian youth.

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10. TITLE:	<b>BOYS THINK YOU ARE HIV POSITIVE IF YOU ASK THEM TO USE A CONDOM. ADDRESSING THE REPRODUCTIVE HEALTH NEEDS OF ORPHANS AND VULNERABLE ADOLESCENTS IN ZAMBIA</b>
<b>Authors:</b>	Reed K
<b>Year:</b>	2003
<b>Org/Inst:</b>	Rollins School of Public Health, Emory University, Atlanta, GA, United States
<b>Status:</b>	Published in the abstract book for the XIV International AIDS Conference: Abstract no. WePeE6509
<b>Study Site(s):</b>	Selected sites in Zambia
<b>Source:</b>	The XIV International AIDS Conference: Abstract no. WePeE6509

**Issues:** Unless current trends reverse, one of every two Zambian children born today will contract HIV and die of AIDS. The purpose of this research is to describe the reproductive health needs of orphans and other vulnerable adolescents in Zambia and to define effective strategies to address these needs.

**Description:** The central questions explored in this study are: (1) Why are orphans and vulnerable adolescents in Zambia susceptible to HIV infection and other diseases?; (2) How do behavioural, cultural, and economic variables influence knowledge, attitudes and sexual behaviour among young people in Zambia and in turn, affect the spread of HIV/AIDS?; and (3) How can one effectively address the reproductive health needs of orphans and vulnerable children in Zambia at the individual, community, and structural/environmental level of intervention? Sources used in this study include informal discussions with orphaned adolescents girls, participatory learning action appraisals and a review of the effectiveness of HIV behavioural interventions.

**Lessons learned:** Findings illustrate that contraceptive use among adolescents is low in Zambia. Young people affected by AIDS are vulnerable to many misperceptions regarding pills and condoms. Exchange sex creates a favourable environment for orphans and vulnerable girls to increase sexual activity with multiple partners. A limited access to family planning and STI medications at clinics drive many young people to purchase drugs from peddlers and seek treatment from traditional healers.

**Recommendations:** There are direct links between community-level care for children affected by AIDS, and prevention of the spread of HIV. Programmes that support and care for orphans and vulnerable children may be extremely effective in reducing their vulnerability to exchange sex, sexual abuse and sex work, and in protecting them from HIV infection. Activities are suggested to integrate HIV/AIDS prevention with orphan care.

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<b>11.</b>	<b>TITLE:</b>	<b>UNDERSTANDING HIV RISK BEHAVIOR AMONG MEN WHO HAVE SEX WITH MEN IN ZAMBIA</b>
<b>Authors:</b>	Zulu K <sup>1</sup> , Bulawo N.D <sup>2</sup> , Zulu W <sup>1</sup>	
<b>Year:</b>	2004	
<b>Org/Inst:</b>	Zambia Association for the Prevention of HIV and Tuberculosis,	
<b>Status:</b>	Published in an Abstract Book for the <i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. WEPE0719	
<b>Study Sites:</b>	Lusaka, Livingstone, Mansa, Nchelenge, Ndola and Kitwe	
<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. WEPE0719	

**Background:** Unprotected anal sex is several times risky than unprotected vaginal intercourse with an HIV-infected man (UNAIDS). Study objectives were to examine the prevalence of high risk behaviour, assess predictability of bisexual HIV transmission. Assess access to sexual health information, HIV prevention and care programs in a sample of 18-40 old MSM in Zambia.

**Methodology:** 641 MSM completed questionnaires in which some answers were given orally and others in writing: Variables include HIV/AIDS knowledge, sexual behaviour, perceived risk, risk reduction intentions, peer norms and partner risk levels.

**Results:** Sex between men is at the core of HIV transmission in many Zambian contexts with consequences for infections, subsequently transmitted heterosexually. 51% reported high-risk male and female partners; 18% reported risk behaviour reduction intentions; 33% do not believe peer norms support condom use; 68% had unprotected anal sex with men and women. 45% are sexually active bisexuals, 19% reported having had an STI, but blamed women for it. 33% are HIV positive. 73% thought anal sex is safer than vaginal sex. 89% don't know condoms are used in anal sex.

**Conclusions:** Non existence of HIV prevention programs for MSM is an impediment to condom use and risk behaviour reduction making some assume that anal sex is safe. AIDS service organizations have ignored to mount HIV prevention programs for MSM. Sex between men and commercial sex work is illegal in Zambia, but a number of HIV prevention and care programs target female sex workers, which are making a difference in reducing STIs and HIV among female sex workers and their clients. On the flip side of these programs are MSM who enter the sex industry to survive. Multi-sectoral interventions targeted at MSM are needed to understand and decrease risk behaviour and consequently reduce HIV incidence in many Zambian context.

<b>12.</b>	<b>TITLE:</b>	<b>STIGMA AND DISCRIMINATION; THE BIGGEST CHALLENGE TOWARDS COMBATING COMPLETELY THE SPREAD OF HIV/AIDS BY 2015.</b>
<b>Authors:</b>	Monde I. N	
<b>Year:</b>	2004	
<b>Org/Inst:</b>	Peer Educators Association of Zambia (PEAZ)	
<b>Status:</b>	Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference	
<b>Study sites:</b>	Kafue, Lusaka and Chongwe	
<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.	

**Objectives:** The overall goal of the study is to reduce proportionally the levels of HIV/AIDS related stigma and discrimination by sharing the Peer Educators Association of Zambia (PEAZ)'s experiences.

**Study setting and design:** The research study was done in Kafue, Lusaka and Chongwe districts of Lusaka province from January 2003 to July 2004. The following methodologies were used: Focus group discussions and feedback reports from resident development committees (RDCs) home based care groups (HBCs) and Anti-AIDS clubs; Structured and in-depth interviews with the infected and affected; Verbal/oral interviews with youth between 13-30 years; Questionnaires with professional medical practitioners; Story telling, in case of orphans and vulnerable children between the ages of 3-12 years and Discourse analysis.

**Results:** Stigma has impacted negatively in the prevention of HIV/AIDS. Building a HIV/AIDS support group in a place where stigma and discrimination are rife is far from an easy task.

When one's status is a secret, it is hard to answer the persistent questions by family members about frequent hospital visits, consuming so many medications and the cause for sudden loss of weight. When the orphans fall sick, people automatically assume that they have AIDS and medical help is either not sought or not given. People who were once in formal employment and contributed to society are now subjected to living in inadequate conditions due to health and inability to work when diagnosed with this life threatening disease. An HIV-positive man of faith once said, "How we speak has a great impact on who is included and excluded from communities".

<b>13. TITLE:</b>	<b>CULTURAL AND RELIGIOUS FACTORS INFLUENCING HIV VULNERABILITY AND PREVENTION</b>
<b>Authors:</b>	Ngona M
<b>Year:</b>	2002
<b>Org/Inst:</b>	Network of Zambian People Living With HIV/AIDS, Lusaka, Zambia
<b>Status:</b>	Published in an Abstract Book of the XV International AIDS Conference: Abstract no. D12976
<b>Study Site(s):</b>	Selected urban and rural areas of Zambia
<b>Source:</b>	The XV International AIDS Conference: Abstract no. D12976

**Background:** Network of Zambian people living with HIV/AIDS (NZP+) Life support Group is embarking on providing/review information on facts about HIV/AIDS and develops understanding of the socio-cultural and religious implications of the HIV/AIDS pandemic. Although Faith based organisation are saying HIV/AIDS is punishment from God. Life support group has experienced that in this churches nearly everyday people die from HIV/AIDS.

**Methodology:** To utilize theatre and its forms of drama for communities call of action for information, education, entertainment and communication into the community. We make trips in both urban and rural areas, door to door; motivate them the techniques and basic facts on HIV/AIDS and the importance of Voluntary Counselling Test (VCT) why it is considered condoms.

**Results:** Use of dramas performances creates an impact through entry points formed after a theatre performance. To reduce stigma and discrimination by influencing positive living through the community action groups and trained theatre groups.

**Conclusion:** The use of theatre is culturally appreciated and is a widely recommendable intervention for broader disseminations. And even in faith-based organisations.

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<b>14.</b>	<b>TITLE:</b>	<b>USING BROADCAST MEDIA TO SHINE A SPOTLIGHT ON THE REALITIES OF ZAMBIA HIV/AIDS EPIDEMIC</b>
	<b>Authors:</b>	Himanje I <sup>1</sup> , Malindima M <sup>2</sup>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	<sup>1</sup> American International Health Alliance and <sup>2</sup> ZAMCOM
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no.TUPE0951
	<b>Study Site(s):</b>	National
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no.TUPE0951

**Issues:** With 16 percent of the adult population infected with HIV, Zambia is in the midst of a widespread AIDS epidemic. Current media coverage neither reflects the far-reaching societal impacts of AIDS nor provides accurate information that can prevent its further spread or improve quality of life for PLWHA. Journalists generally report dry statistics without providing context or a call to action.

**Description:** After attending a workshop designed to arm journalists with skills on issue-based reporting about HIV/AIDS that was organized by the American International Health Alliance and ZAMCOM with funding from the US government, a ZNBC producer began giving AIDS a face by telling stories of individuals living with the virus rather than simply regurgitating government statements. One of these faces is a mother of six whose husband deserted her three years ago. Despite the government's pronouncement that free ARVs were to be given to vulnerable people, clinic staff never received written authorization to administer the medications. As the woman waited, her health quickly deteriorated. This story illustrated how government policies don't trickle down those they are intended to benefit.

**Lessons learned:** Media can shine a spotlight on problems like the widespread confusion at healthcare centres throughout the country that resulted from ineffective communication of government policies about AIDS treatment. On an individual level, the woman was immediately enrolled in an ART program and local stakeholders pledged support for her and her family. The story also had a national impact, spurring the government to formally instruct all health institutions through a white paper issued by the Cabinet Office to provide free ARVs to patients in need.

**Recommendations:** Issue-based stories have the power to bring about quick reaction from stakeholders. When stories are given a human face, they can bring issues to the forefront and influence policymakers far more effectively than numbers and medical jargon.

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<b>15.</b>	<b>TITLE:</b>	<b>CHILD ABUSE AND HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES AND BEHAVIOR AMONG ADOLESCENTS IN ZAMBIA</b>
	<b>Authors:</b>	Slonim-Nevo V, Mukuka L.
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	<sup>1</sup> Ben-Gurion University of the Negev, Beer Sheva, Israel; <sup>2</sup> University of Zambia, Lusaka, Zambia
	<b>Status:</b>	Published in the Abstract Book AIDS 2006 - XVI International AIDS Conference Abstract no. WEPE0688
	<b>Study Site(s):</b>	Selected rural and urban areas of Zambia

**Source:** AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0688

**Background:** The purpose of this study is to understand intra-familial child and adolescent physical abuse among adolescents in Zambia, while taking into consideration extra-familial factors such as economic condition, school attendance, and urban or rural residence. In addition, we examine the impact that child abuse might have on the participants, a level of knowledge about HIV/AIDS, their attitudes towards prevention, and their engagement in high-risk activities. Such knowledge will contribute to the development of programs that address the issue of child abuse in Zambia as well as programs addressing HIV/AIDS prevention among Zambian children and adolescents.

**Methodology:** The sample comprises 3,360 adolescents aged 10-19 years from urban and rural Zambia; 2,160 of them attended school while 1,200 of them did not. Standardized scales were utilized to assess HIV/AIDS-related knowledge, attitudes, and self-efficacy. In addition, the adolescents reported the extent of their engagement in various high-risk behaviours and their lifetime experience of being sexually or physically abused.

**Results:** As the level of abuse experienced by the adolescents increased their level of knowledge about HIV/AIDS, tendency to hold positive attitudes toward prevention, and level of self-efficacy regarding HIV/AIDS prevention decreased. Most importantly, when controlling for socio-demographic variables, findings indicate that experiencing abuse in the past was a key factor predicting participation in high-risk behaviours associated with HIV/AIDS infection.

**Conclusions:** Physical and sexual abuse of adolescents in Zambia is significantly related to HIV/AIDS risk behaviours. In a country where HIV/AIDS epidemic is rampant, it is important to raise the awareness to the problem of child sexual and physical abuse and its connection with HIV/AIDS infection. Programs that prevent child abuse should be developed, implemented, and evaluated for their effectiveness in reducing the rate of child abuse as well as the rate of HIV/AIDS infection. Special attention should be given to out-of-school adolescents and those from poorer families.

16. **TITLE:** **LINKING RESPONSES TO HIV/AIDS AT COMMUNITY, PROVINCIAL, REGIONAL AND NATIONAL LEVEL**
- Authors:** Mutale B. M. M.
- Year:** 2004
- Org/Inst:** University of Zambia Dept of Community Medicine
- Status:** Published in The XV International AIDS Conference: Abstract no. TuOrE1132
- Study Site(s):** Lusaka
- Source:** The XV International AIDS Conference: Abstract no. TuOrE1132

**Issues:** Behaviour change and enforcement of Life skills are the most effective method of HIV/AIDS prevention among the youth. Many existing HIV/AIDS and Life skills programs at community level do not address the sexual cultures, concerns, desires, experiences and are not based on true actual needs of the youth as most programs focus on moralistic approaches e.g. Educating youth on the dangers of sex or HIV/AIDS. This approach does not always culminate into sustainable behaviour change.

**Description:** This presentation focuses on behaviour change initiatives and Life skills that have been used in the prevention of HIV/AIDS among youth in Zambia at community and national level by Youth Alive Zambia [YAZ]. The group-counselling model of a four-day behaviour change program and two-day Life skills program empowers young people to

make informed and independent decisions on their psycho-sexual behaviour. Peer-to-Peer approach and various communication strategies. The presentation is based on first hand use of Life skills as most boys and girls desire for open communication about sexuality. In an event where they cannot get the communication they need from elsewhere, these programs fill the gap.

**Lessons learnt:** Young people at community and national level is better informed through peer-to-peer approach. Their concerns, experiences, identities and desires relating to sexuality are better dealt with through behaviour change programs and Life skills as self-reflection comes to play after going through the model.

**Recommendations:** Linked self reflective behaviour change and Life skill programs are the best approach in mitigating the spread of HIV/AIDS among young people and the same programs are fluid enough to be used on adults.

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17. TITLE:	<b>WATER, WINE AND WOMEN - A BASELINE ASSESSMENT OF RISK FACTORS IN A FISHING COMMUNITY IN SOUTHERN ZAMBIA</b>
<b>Authors:</b>	Simbaya J. Ndubani P.
<b>Year:</b>	2005
<b>Org/Inst:</b>	Institute for Economic and Social Research
<b>Status:</b>	Published in an Abstract Book for <i>AIDS 2006</i> - XVI International AIDS Conference: Abstract no. CDC0771
<b>Study Site(s):</b>	Southern Province
<b>Source:</b>	<i>AIDS 2006</i> - XVI International AIDS Conference: Abstract no. CDC0771

**Background:** In order to inform interventions, a qualitative baseline assessment of risk factors, perceptions about HIV/AIDS and ART was conducted in a fishing community in the Southern Province of Zambia.

**Methodology:** Only qualitative methods were used. Sixteen men and seven women representing different wealth and livelihood categories in the community participated in the study through FGDs, In-depth and Key informant interviews.

**Results:** Fishing is a relatively lucrative livelihood activity. Whilst money is invested back into fishing and in children education, it is also spent on entertainment wine and women. The mobility of fishermen and urban fishmongers promotes engaging in risky sexual behaviours. There are many single women in the camp who buy fish and who, to ensure a constant supply, exchange sex for fish. Whilst knowledge around HIV/AIDS is high, condom use appears to be negligible. Although most of the respondents knew that AIDS had no cure, they had heard about ART and were quite optimistic about its benefits. Financial and logistical barriers seem to be a big problem in accessing ART. Even VCT services are not available on the locality. The community suffers from high morbidity as all the respondents reported deaths resulting from chronic illnesses in their families over the last five years. Six of the respondents reported having current symptoms of illness that included TB, chronic cough, malaria, body rash and various forms of lymphadenitis. Those suspected of HIV/AIDS and found with TB were stigmatised. Ideas of AIDS being ones due in return for bad behaviour were held by some members of the community.

**Conclusions:** HIV/AIDS will continue to be a health problem in Kabala owing to a number of risky factors including living away from spouse, concentration of single men in the fish camps and alcohol consumption. Interventions need to be comprehensive and adaptive and involve all actors.

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<b>18. TITLE:</b>	<b>COMMUNICATION EFFECTS AND THEIR IMPACT ON THE DISSEMINATION OF HIV/AIDS INFORMATION TO THE YOUTH: A STUDY OF TWO CHRISTIAN CHILDREN'S FUND (CCF) ZAMBIA PROJECTS</b>
<b>Authors:</b>	Chola D. C.
<b>Year:</b>	2002
<b>Org/Inst</b>	The University of Zambia, Mass Communication
<b>Status:</b>	Completed
<b>Study Site(s):</b>	Kafue
<b>Source:</b>	The University of Zambia, Mass Communication

**The objectives** of this study were: (i) to establish effects of communication and their impact on the dissemination of HIV/AIDS information to the youth in the Christian Children's Fund, (CCF) Zambia affiliated projects and (ii) to establish how the youth perceive the HIV/AIDS messages they receive and factors that influence their preference to accessing different types of communications.

**Youth from the two Kafue** based CCF Zambia projects aged between 15 and 24 years were targeted for the study. The units of the study were randomly selected based on the computer generated Linking Children to Sponsors (LINCS) project listings. Both quantitative (survey) and qualitative (Focus Group Discussion) methods were used for collecting data. A statistical package for the social sciences (SPSS) was used to analyse the quantitative data while qualitative data was organized in categories and analysed thematically as per research questions.

**The study established** the fact that most of the youth depended on interpersonal communication comprising parents, friends, teachers and the church as a major source of information on various issues including HIV/AIDS. In terms of the mass media, radio was the most accessed and the medium considered effective for disseminating HIV/AIDS information. Additionally, results revealed that most of the youth would like to be involved in the development of HIV/AIDS messages/materials.

**From the findings of the study**, it is clear that for one to reach the youth, interpersonal communication channels should be considered as vital. As for the mass media, radio is perceived by most of the youth as the most effective for disseminating various types of information including HIV/AIDS messages. It is also widely accessed by the youth especially those in the rural areas.

<b>19.</b>	<b>TITLE:</b>	<b>A STUDY OF SOCIO-CULTURAL ANTECEDENTS TO HIV PREVENTION AMONG THE LUVALE OF ZAMBEZI DISTRICT.</b>
	<b>Authors:</b>	Mutombo N
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	University of Zambia, School of Human and Social Sciences Demography Division, Lusaka
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Zambezi District Chief Ndungu's Area
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Objective:** The main aim of this study was to accelerate behavioural change in HIV prevention by making interventions more reflective of local socio-cultural/economic conditions.

**Methodology:** This was a qualitative study. A multi-step process was used: Literature review and identification of research sites, community focal persons, and problems; Development of research tools, three week training and establishment of community research groups in the research sites; Rapid SCR study using especially designed interview guides; Dissemination of results to project staff; and Introduction of project staff to community leaders and dissemination of results to communities.

**Results:** Some strong relationship exists between initiation and sexual behaviour. During initiation, young boys and girls are taught to start practicing sexual intercourse as a way of preparing them for adulthood. However, HIV prevention is not part of the teaching. Even though the school going children learn about condoms from Anti-AIDS clubs, access to condoms in this area is limited because the local health centre, which is under the Catholic Church, does not provide condoms.

The initiates are introduced to various herbs used for dry sex and enlarging penis. Girls are also taught to submit to men, making men feel superior. This has implications for gender - based violence and consequently HIV prevention.

TBAs administer herbs to women to quicken delivery. In some cases, infants are burnt by toxic herbs inserted into the birth canal of their mother, thereby increasing their chances of contracting HIV if the mother is infected.

20.	<b>TITLE:</b>	CULTURAL FACTORS FOR PERSONS WITH DISABILITIES IN ZAMBIA MAY INCREASE RISK OF HIV/AIDS
	<b>Authors:</b>	Herlihy J. <sup>1</sup> , Thibeault R. <sup>2</sup> , Meyers S. <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	
	<b>Status:</b>	Published in the Abstract Book for <i>AIDS 2006 - XVI</i> International AIDS Conference Abstract no. WEPE0752
	<b>Study Site(s):</b>	Lusaka peri-urban
	<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference: Abstract</i> no. WEPE0752

**Issues:** We hypothesize that the marginalization of persons with disabilities and the endemic risk of HIV/AIDS in Zambia may be synergistic, creating a disparate vulnerability in this population. Reports of disability prevalence in Zambia vary widely. WHO reports 10% of the world population suffers from a physical, sensory or intellectual disability affecting their daily lives. Persons living with disabilities in Zambia are disempowered, facing a lifetime of social stigma and associated risks. To date, no published data is available evaluating HIV/AIDS risk in disabled Zambians.

**Description:** In a pilot study conducted prior to program development in peri-urban Lusaka, Zambia, we interviewed 45 families containing at least one member with mobility, sensory or cognitive impairment (disabled age range 3-70 years). This population reported evolving marginalization throughout their lifespan. Disabled children face intense social isolation, are a low educational priority, and have limited access to appropriate services. Adults with disabilities are perceived as burdens, are largely unemployable, and yet become childcare dumping grounds in this orphan-laden society. Young adults with disabilities, while frequent victims of family abandonment, are perceived as asexual and unfit for marriage. Additional risks are incurred by disabled females whose presumed virginal status

makes them vulnerable to rape by HIV-positive men who believe that sexual intercourse with a virgin can cure AIDS.

**Lessons learned:** Current HIV/AIDS intervention strategies employed in Lusaka are often inappropriate and inaccessible to persons with disabilities. Cultural assumptions of low HIV risk for disabled persons result in a lack of targeted educational materials and accessible outreach services. Few disabled members of this community know their HIV status despite their high risk of infection within an endemic area.

**Recommendations:** Cultural attitudes of Zambians toward persons with disabilities contribute toward increasing their risk of HIV/AIDS. Targeted interventions are essential if prevention and treatment services are to reach this vulnerable population.

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21.	<b>TITLE:</b>	HIV INFECTION AS AN OCCUPATIONAL HEALTH PROBLEM AMONG MINIBUS AND TAXI DRIVERS (MBTDS) IN LUSAKA: PREVALENCE AND RISK FACTORS ASSOCIATED WITH HIV INFECTION.
	<b>Authors:</b>	Siulapwa Y. K, Sisiya S, Grove-Akpey M <i>et al</i>
	<b>Org/Inst:</b>	Evelyn Hone College, University of Zambia School of Medicine
	<b>Year:</b>	2005
	<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objective:** To determine the extent of HIV prevalence and risk factors associated with HIV infection among MBTDs in Lusaka.

**Methodology:** A cross-sectional study administered to MBTDs in Lusaka (estimated 5000). Data was collected from April to June 2004. A total of 360 male MBTDs were interviewed. No female drivers were identified. The study was conducted at all four bus stations located at town centre.

**Results:** Some of the highlights of the study were as follows: HIV prevalence rate was 33.4% and a massive 45% among 25 to 29 years olds. Those who had lived in Lusaka for more than 10 years tended to be HIV positive ( $p = 0.001$ ). Respondents who reported “not using a condom” during last sexual act tended to be “HIV positive” ( $p = 0.01$ ). After adjusting for marital status, respondents who were born again were 2.24 (95% CI 1.21, 4.13) times more likely to have been HIV positive compared to non-born again. Participants who drank alcohol were found to be 3.59 (95% CI 1.61, 8.00) times more likely to have been HIV positive compared to respondents who did not. General perception of the risk of HIV infection was found to be very poor. Respondents who reported to have had STI during the last 12 months tended to be HIV positive ( $p = 0.001$ ). Those who sought treatment/advice from a doctor/clinic were found to be 3.53 (95% CI 1.90, 6.57) times more likely to have been HIV positive compared to respondents who sought treatment/advice from a traditional healer.

**Conclusion:** In conclusion the results suggest that unsafe sexual behaviour was primarily responsible for the high HIV infection among MBTDs and can therefore be prevented by changes in those same behaviours. Religiosity contributed to high risk of HIV infection because of their churches dismissal of condoms. Majority of respondents did not know the critical issues by which HIV/AIDS is transmitted. Finally, prompt treatment of STI may

reduce the transmission of HIV infection. FUNDING: Zambia-US Research Partnership in HIV Prevalence and Care, UNZA School of Medicine.

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22.	<b>TITLE:</b> <b>HIV/AIDS INFORMATION AMONG SECONDARY SCHOOL ADOLESCENTS AND ITS EFFECTS ON THEIR ATTITUDES AND SEXUAL BEHAVIOUR</b> <b>Authors:</b> Namukwai R. S <b>Year:</b> 2006 <b>Org/Inst:</b> The University of Zambia <b>Status:</b> Published <b>Study Site(s):</b> Lusaka <b>Sources:</b> The University of Zambia
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**This study was designed** to establish what HIV/AIDS and STD information adolescents in secondary schools are exposed to and the effects of this information on their attitudes and sexual practices. The specific objectives of the study were thus:

- To identify the major sources of HIV/AIDS and STDs information for boys and girls in secondary schools
- To find out the gender equity in accessing HIV/AIDS information between boys and girls in secondary schools.
- To find out if boys and girls in secondary schools are using this information to adopt better attitudes and sexual practices

The main and specific objectives of the study were achieved by obtaining key indicators on HIV/AIDS related information and knowledge, attitudes and sexual behaviours of young people in secondary schools.

**Findings Summary**, Respondents' Background and Living Arrangements: The study reveals that the majority of the adolescents in secondary schools are kept by their own parents while the others are looked after by their guardians who ranged from uncles, aunts, grand or single parents. Only a very minimal percentage of respondents reported that they are looking after themselves.

Regarding the level of parents or guardians education, a large majority of respondents were looked after by parents and guardians with college education followed by those whose keepers had gone up to secondary level. More parents and keepers are likely to talk to the female respondents about sex than to the male respondents. Generally, there didn't seem to be a co-relation between parents' level of education and parents' or keepers' attitudes towards respondents as most of them reported that parents/keepers are generally strict on them regardless of the level of education.

**Knowledge of HIV/AIDS and STDs:** The awareness about HIV/AIDS was almost universal with almost 100% of the respondents having fundamental knowledge on how AIDS is transmitted from one person to another and how they can protect themselves from infection. On STDs, male respondents had comparatively better knowledge on the names and symptoms of various STDs. Despite this however, many of them did not seem to recognize the relationship.

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23.	<b>TITLE:</b> <b>PEER COACHES / LEADERS AS ETHNOGRAPHERS USING SPORT FOR HIV PREVENTION AND TREATMENT</b> <b>Authors:</b> Banda D. <sup>1</sup> , Mwaanga O. <sup>2</sup> <b>Year:</b> 2005
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<b>Org/Inst:</b>	Edu Sport Foundation
<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. THPE0431
<b>Study Site(s):</b>	Copperbelt Province
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. THPE0431

**Context:** This paper focuses on the use of peer coaches/leaders as cultural intermediaries in HIV/AIDS affected communities using basketball drills. Dunking AIDS out (DAO) Approach as a research context to engage with other youths. Innovation is critical in trying to address social problems such as HIV/AIDS. Clifford and Marcus (1986), state that Cultures do not hold still for their portraits. Culture is contested, temporal, and emergent; there is great need to be innovative in the design of HIV intervention programs. This presentation will focus on the piloting of HIV prevention interventions in Zambia among Edu Sport Foundation peer coaches.

**Methodology:** The program has adopted an ethnographic approach, qualitative research that uses observations, interviews and documentary sources. DAO movement games as a research context have a follow up activity to every drill that engages the participants in group discussions. Peer coaches handling these sessions are trained as ethnographers and cultural intermediaries between the researchers (program designers) and the social world of youths. The approach uses basketball drills and relates the drills to real life scenarios in order to operate as an information service for prevention as well as gather data for program modifications and means of making interventions culturally appropriate.

**Results and discussion:** Our findings in running pilot DAO HIV interventions reveal the following as being achieved through these basketball movement games:  
**Attraction:** DAO movement games are an attraction to the target group that the games try to engage the youths.

**Enjoyment:** The drills have a competition element that draws the participants into the game, satisfying the FUN based approach as advocated by the authors.

**Local Identity:** The games have room for modification to suit the needs of a locality, making the intervention strategy culturally appropriate.

<b>24.</b>	<b>TITLE:</b>	ZAMBIA: MALE CIRCUMCISION PILOT PROJECT
	<b>Authors:</b>	Alain D
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	Johns Hopkins Program for International Education in Gynaecology and Obstetrics JHPIEGO
	<b>Status:</b>	Ongoing
	<b>Study Site(s):</b>	Lusaka
	<b>Sources:</b>	JHPIEGO website

**Objective:** JHPIEGO is partnering with Population Services International (PSI) to further develop a package of services around male circumcision (MC), and to test the feasibility of providing MC services in different service delivery settings, including private clinics. This PSI-funded project is a follow-on to work done in 2003 to 2004 under the U.S. Agency for International Development (USAID)-funded Training in Reproductive Health and AIDSMark projects, through which JHPIEGO and PSI worked together to improve the quality and accessibility of comprehensive MC and male RH services in Zambia, and developed a global learning package on MC.

**Activities:** In the current project, JHPIEGO is supporting PSI in designing a training package that integrates clinical and counselling components of MC services to ensure that MC clients receive appropriate messages about the limitations of MC as an HIV risk-reduction measure (i.e., the ongoing need to use other methods of protection) and other essential information. JHPIEGO is also taking the lead in the clinical component of the trainings, which are geared to clinical officers/doctors and nurses/counsellors.

To ensure that providers trained in MC services will be able to use their new skills in an enabling environment, JHPIEGO is assisting PSI in conducting site assessments, as well as initiating specific facility improvements to be made at Lusaka's University Teaching Hospital and New Start Centre.

To a similar end, JHPIEGO is providing technical support to service providers using JHPIEGO's Standards-Based Management and Recognition (SBM-R) approach for improving performance and quality of services provision. About JHPIEGO: JHPIEGO (pronounced "JA-PIE-GO"); an international health organization affiliated with The Johns Hopkins University in Baltimore, Maryland, builds global and local partnerships to enhance the quality of health care services for women and families. JHPIEGO's focus is on training and support for health care providers including doctors, nurses, midwives and health educator working in limited-resource settings throughout Africa, Asia, the Middle East, Latin America and the Caribbean. JHPIEGO has Center of Excellence in Maternal and Child Health, HIV/AIDS, and Family Planning and Reproductive Health to strengthen services to women and families in 50 countries around the world.

25.	<b>TITLE:</b>	<b>LOCAL PERCEPTIONS OF RESISTANCE IN SOUTHERN ZAMBIA AND THEIR IMPLICATIONS FOR POLICY AND PROGRAMS</b>
	<b>Authors:</b>	Byron E <sup>1</sup> , Gillespie S <sup>1</sup> , Hamazakaza P <sup>2</sup> <i>et al</i>
	<b>Year:</b>	2005-2006
	<b>Org/Inst:</b>	<sup>5</sup> International Food Policy Research Institute, <sup>6</sup> Regional Network on HIV/AIDS Rural Livelihood and Food Security Programmes
	<b>Status:</b>	Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Southern Province
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**The objective** of this study is to identify individual and community responses to the AIDS epidemic in southern Zambia, in terms of strategies for bolstering resistance, in order to better understand how to strengthen those responses. We examine whether individuals and communities recognize risk factors and modify behaviour to avoid infection.

**Methodology:** Research was conducted in four communities in Zambia's Southern Province between April 2005 and February 2006. A sample of 4 Standard Enumeration Areas with divergent community resilience and resistance were sampled. Case studies of 60 households with a sample of 179 households were surveyed for in-depth interviews. Key actors from institutions operating within and outside each community were interviewed about the roles their organizations play in preventing the spread and mitigating the impacts of HIV.

<sup>1</sup> International Food Policy Research Institute

<sup>2</sup> Regional Network on HIV/AIDS Rural Livelihood and Food Security Programmes

**Results:** Movements of people for economic livelihoods, economically linked push and pull factors behind participation in transactional sex and alcohol use all figure prominently into local perceptions of individual susceptibility to HIV infection. Gender differences, household wealth status cross-cut perceptions of risk of infection and application of prevention strategies. We found ample evidence from the field that although individuals and communities perceive risk and understand modes of transmission, there was little indication of preventive action.

**Conclusions:** Decisions about behaviours and risk are not always rationale choices, but embedded in social norms and economic constraints. Women, youth, and other vulnerable groups face environmental and structural barriers to implementing individual behavioural-change based prevention strategies. Greater community engagement in prevention efforts is needed, reinforcing the role it can play in promoting resistance. More evidence on community responses is necessary to understand what positively or negatively influences a community's capacity to respond to the epidemic.

Funding Source: International Food Policy Research Institute

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26.	<b>TITLE:</b>	<b>DEFILEMENT AS A THREAT TO HIV/AIDS PREVENTION IN ZAMBIA.</b>
	<b>Authors:</b>	Katuta C, Kamwengo M, Lubbungu J <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	The University of Zambia, Lusaka, Zambia
	<b>Status:</b>	Published in an Abstract Book for the XV International AIDS Conference: Abstract no. TuPeC4839
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. TuPeC4839

**Issues:** The paper intends to discuss the case of defilement or child sexual abuse as a threat to HIV/AIDS prevention in Zambia. In Africa, Zambia included, there is a wrong perception that having unprotected sex with minor or child who is a virgin cure one who has the HIV/AIDS. Hardly a day passes without a defilement case being reported. This has prompted the political leaders, civil society and groups of people ring the alarm bells against this threat.

**Description:** In Zambia, the cases of HIV/AIDS transmission have reduced in the last two years. This has been due to campaign for condom use and abstinence. However, this campaign is currently threatened by the increasing sexual abuse (defilement) cases. It is posing serious threat since the abusers infect the minors with STIs that greatly facilitates the transmission of HIV/AIDS.

**Lessons learned:** A large percentage of defilers are those entrusted to look after the children who have been orphaned. It has been discovered that sexually abused (defiled) children do not come out in the open , because of the most of their defilers are their guardians .There is lack of adequate programmes that seek to increases access to information that help the young to break the chains of silence against sexual abuse {defilement}.

**Recommendations:** putting in place effective law that addresses sexual abuse (defilement) cases. There is also great need to scale up campaign programmes that seek to increase access to information on the rights of children so as increase the self-esteem of young girls

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27.	<b>TITLE:</b>	EFFECTIVENESS OF MESSAGES ON T-SHIRTS IN THE FIGHT HIV/AIDS
	<b>Authors:</b>	Lungu J. <sup>1</sup> , Konayuma A. <sup>2</sup>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	
	<b>Status:</b>	Published in the <i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. WEPE0965
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. WEPE0965

**Background:** The HIV/AIDS prevalence rate in Zambia now stands at about 16%. The HIV/AIDS pandemic has been ravaging humankind indiscriminately. And it has not spared anyone. Its devastating effect has also been felt heavily by the productive workforce not only in private institution but in public institutions as well.

**Methodology:** Direct interviews were conducted. The governments of the republic of Zambia and some non governmental organizations have introduced a policy of wearing T shirts carrying HIV/AIDS messages in the public service as a way of creating awareness in the public service and the public in general. A study was carried out to assess the effectiveness of the program by finding out whether people who wear the T-shirts understood the messages themselves.

**Results:** A total number of about 15 civil servants were interviewed on different dates and in different ministries. The question posed was basic and it says what is written on the back of the T shirt? 1 person out of the fifteen knew all the wordings on the back of the t-shirt and was able to explain the meaning behind the T-shirt.

1 person was able to recite the wording but using his own wording in some instances. 13 people could not recite or remember what was inscribed on the back of the T-shirts apart from saying the message is HIV related.

**Conclusion:** From this study, we may conclude that people who wear T-shirts do not even know and understand messages on T-shirts. The effectiveness of the messages on the t-shirts as a tool to fight HIV/AIDS is questionable unless the people wearing the T-shirts can understand the messages first, only then will they have the ability to sensitise other people effectively.

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28.	<b>TITLE:</b>	REDUCE HIV/AIDS IN ZAMBIAN PRISONS WITHIN THE CHRISTIAN FRAMEWORK. (MEN TO MEN TRANSMISSION)
	<b>Authors:</b>	Kawilila S
	<b>Org/Inst:</b>	Prison Fellowship Zambia, Chingola Care-group
	<b>Year:</b>	2004
	<b>Status:</b>	Published in the Abstract Book for the XV International AIDS Conference: Abstract no. C10342
	<b>Study Site(s):</b>	Chingola
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. C10342

**Issue:** There is evidence of homosexual practise, low knowledge of HIV/AIDS and sharing of blood contaminated instruments such as razor blades by tattooing and hair clippers which are not properly cleaned and high risk behaviour among prison inmates. Although principle 9 of the United Nations basic principle for the treatment of prisoners

provides for access to health care services available in the country without discrimination, inmates in prisons continue to receive an inferior health service compared with that obtained outside.

**Description:** Prison Fellowship Zambia, Chingola Care-group has mobilized volunteers to respond to the epidemic of HIV/AIDS. Health volunteers on this project to be equipped with skills, knowledge and confidence to talk to prisoners about HIV/AIDS to enable them carry on the work. We are working with the church and the community to do this. We offer counselling to prisoners and initiate a change of behaviour. Lessons learnt: It is an uphill battle due to: Prison culture: Security consideration tend to conflict with genuine public health concerns. Despite the alarming situation there is still no defined response to the public health situation in Zambian prisons. Behaviour already in place: Men having sex with other men; homosexuality activity is regarded as an offence therefore condoms are not provided to prisoners. Issues surrounding sexuality are not openly talked about due to traditions and Ignorance is high because they claim AIDS is caused by witchcraft.

**Recommendations:** To discourage tattooing by teaching prisoners through workshops and seminars. Inmates who becoming symptomatically sick should be released upon recommendations by a doctor. More to be done in the area of prevention and prisoners to access clean razor blades and hair clippers. More awareness and knowledge of both prisoners and staff in the fight against HIV/AIDS. Counsellors and HIV/AIDS prisoner committee to be established through workshops with inmates.

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29.	<b>TITLE:</b> <b>UNDERSTANDING THE DYNAMICS OF HIV/AIDS AND FAMILY PLANNING AT THE COMMUNITY LEVEL IN ZAMBIA</b> <b>Authors:</b> Underwood C. <sup>1</sup> , Kapungwe A. <sup>2</sup> , Chabwela P. <sup>3</sup> <i>et al</i> <b>Year:</b> 2005 <b>Org/Inst:</b> Health Communication Partnership <b>Status:</b> Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1071 <b>Study Site(s):</b> - <b>Source:</b> AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1071
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**Background:** In the midst of an HIV and AIDS epidemic that is characterized predominantly by heterosexual transmission in Zambia, it is vital to understand how HIV-positive status and high prevalence regardless of one's status influence fertility-related decisions so as to more fully address the public's reproductive health concerns.

**Methodology:** Twelve focus groups of men and women, 16 semi-structured interviews with people living with HIV/AIDS, and interviews with 6 key informants in three study sites were used in data collection.

**Results:** The findings show that HIV/AIDS and family planning are, to a large degree, integrated in the minds of many Zambians. Many study participants spontaneously mentioned the influence of HIV/AIDS in reducing their desired family size. Concerns about leaving an undue burden on others if their children were orphaned and worries about transmission to a newborn were cited as reasons for smaller desired family size. The availability of PMTCT and ARVs seems to have had a slightly moderating effect on this downward trend among PLWHAs; the general public is less critical of PLWHAs who continue childbearing than in previous studies. Importantly, respondents in this study recognize the right of HIV-positive individuals to continue childbearing even as they point to their moral responsibility to protect sexual partners from potential infection.

**Conclusions:** The findings reported herein clearly support the wisdom of integrating HIV/AIDS and family planning. Increasingly, the public tends to think of the two in tandem, most people want to know how to protect themselves, their partners, and their children from HIV transmission, recognizing that it may well include contraceptive use and smaller families. Access to counselling and testing linked to voluntary contraceptive counselling should be available at health clinics, where men and women alike can obtain services, as well as at antenatal clinics.

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30.	<b>TITLE:</b> <b>HIV/AIDS INFORMATION AMONG SECONDARY SCHOOL ADOLESCENTS AND ITS EFFECTS ON THEIR ATTITUDES AND SEXUAL BEHAVIOUR</b> <b>Authors:</b> Namukwai R. S. <b>Year:</b> 2006 <b>Org/Inst:</b> The University of Zambia <b>Status:</b> Published <b>Study Site(s):</b> - <b>Sources:</b> The University of Zambia
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**This study was designed to establish** what HIV/AIDS and STD information adolescents in secondary schools are exposed to and the effects of this information on their attitudes and sexual practices. The specific objectives of the study were thus:

- To identify the major sources of HIV/AIDS and STDs information for boys and girls in secondary schools
- To find out the gender equity in accessing HIV/AIDS information between boys and girls in secondary schools.
- To find out if boys and girls in secondary schools are using this information to adopt better attitudes and sexual practices

The main and specific objectives of the study were achieved by obtaining key indicators on HIV/AIDS related information and knowledge, attitudes and sexual behaviours of young people in secondary schools.

**Findings Summary, Respondents' Background and Living Arrangements:** The study reveals that the majority of the adolescents in secondary schools are kept by their own parents while the others are looked after by their guardians who ranged from uncles, aunts, grand or single parents. Only a very minimal percentage of respondents reported that they are looking after themselves.

Regarding the level of parents or guardians education, a large majority of respondents were looked after by parents and guardians with college education followed by those whose keepers had gone up to secondary level. More parents and keepers are likely to talk to the female respondents about sex than to the male respondents. Generally, there didn't seem to be a co-relation between parents' level of education and parents' or keepers' attitudes towards respondents as most of them reported that parents/keepers are generally strict on them regardless of the level of education.

**Knowledge of HIV/AIDS and STDs:** The awareness about HIV/AIDS was almost universal with almost 100% of the respondents having fundamental knowledge on how AIDS is transmitted from one person to another and how they can protect themselves from infection. On STDs, male respondents had comparatively better knowledge on the names and symptoms of various STDs. Despite this however, many of them did not seem to recognize the relationship.

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<b>31.</b>	<b>TITLE:</b> <b>MITIGATING THE IMPACT OF HIV/AIDS IN ZAMBIAN SECONDARY SCHOOLS</b>
<b>Authors:</b>	Siamatowe C
<b>Year:</b>	2006
<b>Org/Inst:</b>	Forum for African Women Educationalists of Zambia (FAWEZA)
<b>Status:</b>	Published
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	Forum for African Women Educationalists of Zambia (FAWEZA)

Zambia has one of the highest rates of HIV infection in the world, mostly affecting the 15 to 24-year-old age group. In response to the pandemic FAWEZA (Forum for African Women Educationalists of Zambia), with support from UNESCO, has set up a prevention education programme to mitigate the impact of the disease. Through this programme, almost 1,800 students have already been trained to provide HIV/AIDS prevention information either working in youth centres or more informally as peer educators. Almost 200 primary and secondary teachers have been trained to oversee school-based SAFE Clubs, which disseminate HIV/AIDS prevention information and act as a safe environment for students to discuss issues associated with the disease. Since the programme has been implemented in Zambia, changes in at-risk behaviour among secondary students have been noted. The number of unwanted pregnancies is decreasing and sexual abuse is being reported more often. There are plans to extend the project to other regions

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<b>32.</b>	<b>TITLE:</b> <b>THE IMPACT OF SALE &amp; NEGLECT OF SPORTS AND RECREATION FACILITIES IN FORMER ZCCM AREAS ON ADOLESCENTS AND ITS CONTRIBUTION TO THE INCREASE IN THE PREVALENCE RATES OF HIV, STIS AND TEENAGE PREGNANCIES IN FORMER MINE TOWNSHIPS IN KITWE ON THE COPPERBELT PROVINCE OF ZAMBIA</b>
<b>Authors:</b>	Chansa D
<b>Year:</b>	2006
<b>Org/Inst:</b>	Lendel Business Foundation & Consultancy Services – Kitwe
<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
<b>Study Site(s):</b>	Kitwe and Kalulushi
<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007 Zambia

**Study Objectives:** The main objective of the study was to critically analyse the impact of the sale of the sports and recreation facilities on adolescent youths and to develop a comprehensive integrated Edusports and recreation strategy that will ensure effective and sustainable management of sports and recreation at the community level.

**Methodology:** Two districts were randomly selected on the Copperbelt province namely Kitwe and Kalulushi. In Kitwe Mogadishu, power sports complex, Nkana gymnasium, Melody, Redo sports complex and in Kalulushi, Chibuluma mine club and Kalulushi stadium were selected.

This was a Qualitative study

- ✓ Interviews were conducted with active stakeholders in sports & recreation and

- ✓ Consultative meetings with adolescent youths to capture their views on the management of sports and recreation including and on HIV, STIs TB and teenage pregnancies in their communities

**Results:** It has been established that the life line of the youth adolescent has drastically changed in terms of daily activities. Before the sale of the sports and recreation facilities on average youths spent six (6) hours at school and four (4) hours in the sports and recreation activities while after the sale of the sports and recreation facilities the adolescent youths now spent on average five (5) hours at school and seven (7) hours indulging in boy/girl relationships, premarital sex, alcohol uptake, excessive drug uptake and for some youths theft has become their career.

The interviews with stakeholders has shown that in Kitwe out of the eight (8) major sports and recreation facilities 50% have been sold and 25% have been neglected and the other 25% have been given to local community management structures and in Kalulushi all the sports and recreation facilities under the study are under the community management structures. Out of an average total of twenty (20) sports activities which was managed by ZCCM only 25% are active and the other 75% are dormant

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33.	<b>TITLE:</b>	<b>THE ROLE OF HIV/AIDS HOME BASED CARE IN PROMOTING POSITIVE SEXUAL BEHAVIOURS AMONG ADOLESCENTS IN KABWE URBAN</b>
	<b>Authors:</b>	Mukubesa S
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	The University of Zambia, School of Medicine
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Kabwe
	<b>Source:</b>	The University of Zambia, School of Medicine

The study was a cross sectional one. It was conducted in Kabwe urban among adolescents, males and females aged from 13 to 23 years. One hundred and three adolescents drawn from 2,496 households having an AIDS patient and being visited by home based care providers were compared with an equivalent number of 103 adolescents living in homes not being visited by home based care providers. These adolescents were drawn from 11 residential areas of Kabwe urban. The adolescents answered questions based on two structure questionnaires.

**The questionnaires were meant to examine** adolescents' attitudes, beliefs and sexual behaviours vis-à-vis HIV/AIDS. Five home based care teams (providers) were also interviewed on their activities with AIDS patients and their families.

**Results** showed that the impact of the home based care programme in promoting positive attitudes and sexual behaviours vis-à-vis HIV/AIDS were not significant. Reasons for this were that home based care teams involved family members particularly adolescents more in caring for their AIDS patients than in family counselling. This was despite the fact that family counselling is an essential component for promoting positive sexual behaviours and attitudes for all family members.

**The study established** that family counselling was not conducted in depth. It only covered one topic of what HIV/AIDS was all about and its primary mode of transmission namely through sexual intercourse. Other modes of transmission such as contaminated blood or sharp instruments were never discussed. The study also established that important topics like HIV risk behaviours, HIV preventive measures and living with HIV/AIDS were not covered.

**The study recommended** among other things: that home based care teams should devote more time to family counselling and that family counselling ought to be more detailed covering topics such as modes of HIV transmission, HIV risk behaviours and HIV preventive measures. Further home based care teams ought to increase the number of their home care providers so that they could spend more time with each family.

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34.	<b>TITLE:</b>	CATALYTIC PROJECTS THROUGH ZAMBIAN YOUTH IN THE HIV/AIDS RESPONSE.
	<b>Authors:</b>	Serlemitos E. A and Hachonda H. M.
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Youth Media (YM) and Youth Activists Organisation (YAO)
	<b>Status:</b>	Published in Meeting Abstracts <i>Int Conf AIDS</i> . 2004 Jul 11-16; 15: abstract no. E12538.
	<b>Study Site(s): -</b>	
	<b>Source:</b>	Abstracts <i>Int Conf AIDS</i> . 2004 Jul 11-16; 15: abstract no. E12538.

**Issues:** Sexual activity is high and risk perception is very low among Zambian youth. 64% of 15-19 year old girls and 70% of boys think they are at no risk of contracting HIV/AIDS. Although government and NGOs have been implementing awareness campaigns specifically for young people, it has become apparent that there is still not sufficient behaviour change among youth.

**Description:** In the mid 1990s Zambian youth realized that the only way to solve this problem was to do something for themselves and their peers. Two NGOs emerged: Youth Media (YM) and Youth Activists Organisation (YAO). Both were formed by high school students; young people with a concern for the future. YM proposed the production of a monthly sexual and reproductive health (SRH) newspaper called Trendsetters. Now, five years and 600,000 copies later, YM is an established institution. YAO demonstrates similar success. Their SRH activities focus on school, church and communities. YAO and YM have created opportunities for other youth groups through their example and have catalysed institutional and individual change. Additionally, several youth centres and two new youth NGOs are now well functioning as a result.

**Lessons learned:** Youth understand best what their needs are and how they should be addressed. They can encourage their peers most effectively. By knowing what will have optimal impact, youth-led NGOs can catalyse young people in all areas, personally and programmatically. They also serve to advocate for youth-centered programs in government and other institutions.

**Recommendations:** In order to make youth programs even more successful, youth need to strengthen their skills in management, budgeting, finance, and report writing. This should be easy as youth are generally eager to learn. Youth also need financial resources and sustained emotional support to be successful. Youth-led efforts can translate into better youth-focused programming in both NGOs and government and must be promoted

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35.	<b>TITLE:</b>	A DECADE OF LESSONS LEARNED IN PREVENTING HIV/AIDS AMONG MOBILE POPULATIONS
	<b>Authors:</b>	Amayun M B
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	World Vision International (WVI)

<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. TuPeD5250"
<b>Study Site(s):</b>	Zambia, Zimbabwe, Thailand, Mozambique, Malawi and India
<b>Source:</b>	The XV International AIDS Conference: Abstract no. TuPeD5250"

**Issues:** Transport and migration connect people with each other, open up markets and economic opportunities - often for a better life for many. They also facilitate HIV transmission into virgin territory and among populations at risk.

**Description:** Over the last decade, World Vision International (WVI) has implemented HIV/AIDS prevention and awareness projects among mobile populations of many countries: migrant farm workers in Marondera, Zimbabwe; seasonal fishermen from Myanmar in Ranong, Thailand; truck drivers and commercial sex workers along Cambodia's Highway 5; Mozambican returnees from Malawi refugee camps; and long-distance truck drivers in Zambia and India. To highlight the trans-national character of the epidemic, WVI has also sponsored a bicycle relay from Mombasa, Kenya to Durban, So. Africa for five years. Most of these projects started as awareness and prevention campaigns, but as the epidemic evolved, activities also became holistic, comprehensive and developmental. Many of the projects now include care for orphans and vulnerable children (OVC), PLWHA home-based care, food security, health, and shelter initiatives. Others have been integrated into long-term Area Development Programs (ADP), WVI's development strategy.

**Lessons learned:** Intense STI and HIV transmission is concentrated at border crossings, transit points and temporary housing for migrant workers, where populations at greatest risk pursue anonymous liaisons away from their regular partners. WVI's most effective programs initially focused on a limited set of clinical services for STIs (diagnosis and treatment) but eventually evolved to include OVC care and income-generation for PLWHAs and their families.

**Recommendations:** HIV/AIDS prevention, care and advocacy efforts are important add-ons to activities that involve mobility: transport, highway and bridge construction, seasonal workers, refugees and returnees, and workers seeking better economic opportunities. Intense HIV/AIDS prevention efforts along major transport routes must occur at starting, transit, cross-border and end points.

<b>36.</b>	<b>TITLE:</b>	<b>COMMUNITY PARTICIPATION IN HIV/AIDS AND GIRLS' EDUCATION INITIATIVES IN SOUTHERN PROVINCE, ZAMBIA</b>
	<b>Authors:</b>	Sikwibele A. L
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Ministry of Education, Livingstone, Zambia
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. ThPeD7880
	<b>Study Site(s):</b>	Southern Province
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. ThPeD7880

**Issues:** Community participation in HIV/AIDS initiatives is seen as a major strategy in HIV/AIDS prevention and in support and care aspects. Communities are seen more as

being on the frontline supported by NGO and government efforts. Moreover, there is need to share sustainable ways of reaching out to communities.

**Description:** The paper will present a model on Community Sensitisation and Mobilisation Campaign that has been piloted in Southern Province of Zambia. It is based on the use of a multi-sectoral approach to the reduction of HIV/AIDS in communities through which three government line ministries, Ministry of Education, Ministry of Health and Ministry of Community Development and Social Services work together at different levels towards the reduction of HIV/AIDS and improved education of girls. The model also includes research, training, sensitisation, mobilisation, advocacy and small grants mechanism to facilitate implementation of initiative which requires external resources.

There are several lessons learnt, success stories and challenges which need to be shared with others for possible replication of the model.

**Lessons learned:** This is a very innovative model whose lessons need to be shared with others working on similar programmes. There is need to share challenges encountered such as those of ownership in the implementation of a multi-sectoral programme, incentives, commitment effective transfers of information, financial accountability, monitoring and documentation of the programme.

**Recommendations:** The paper recommends that the implementation of such a model should give enough time to the sensitisation and mobilisation of communities, training and other aspects of community empowerment and ensure that the financial aspects do not overshadow community efforts.

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37.	<b>TITLE:</b> <b>HIV/AIDS/STIS/TB PREVALENCE &amp; ACCESS TO TREATMENT/CARE AMONG HIGH RISK POPULATIONS- IN ZAMBIAN PRISONS.</b> <b>Authors:</b> Kawilila S & Sakala D. <b>Year:</b> 2005 <b>Org/Inst:</b> Prison Fellowship Zambia <b>Status:</b> Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference <b>Study Site(s):</b> Chingola <b>Source:</b> Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.
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**Objectives:** Reduce HIV/AIDS transmission among 500 prisoners as well as address situations providing risk for HIV/AIDS transmission and compile data by 31st July 2005; Promote, strengthen and support the implementation of prison based AIDS education and counselling training of 100 health volunteers, 40 prisoner peer educators by 31<sup>st</sup> July, 2005; Assess the HIV/AIDS/STIs/TB prevalence rate & provide care/facilitate treatment for the infected by 31<sup>st</sup> July, 2005.

**Methodology:** To raise awareness about HIV/AIDS/ STIs and an understanding of the problems among high-risk groups like prisoners, ex-prisoners, wardens (officers) and their families, through: On going development and dissemination on Information, Education and Communication (IEC) materials; Peer Education, Behaviour Change Process and Life Skills Training workshops for inmates; Conducted drama, sketches, focus group discussions and formed support groups; To promote positive attitudes and build community capacity to manage and care for those affected and infected. We carry out intervention program through the use of peer educators; The Peer Educators are trained on HIV/AIDS/STIs to identify the symptoms of STIs and refer them to doctors, interpersonal

communication, qualities of a good peer educator and care and support for the infected prisoners.

**Results:** 500 prisoners were counselled, trained in peer education and behavioural change program; 300 inmates undertook HIV/AIDS VCT; 108 volunteered for HIV/AIDS tests, 34 found positive, i.e. 31% prevalence rate and an average age of 30 years; Facilitated 12 to start taking ARVs; 35 STIs cases treated

**Conclusion:** There is no policy to facilitate the establishment of health institution set up to carry out the sensitisation, prevention and care through VCT of the HIV/AIDS patients in prisons; Prison service lack facilities to administer to inmates with terminal AIDS; Prison clinics lack investigation capacities for HIV/AIDS/STIs and TB; Health personnel who are seconded to man the clinics are not trained in management of HIV/AIDS/STIs; Drugs are often inconsistent and irregular.

Funding Source: GENEVA GLOBAL

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38.	<b>TITLE:</b>	<b>PERCEPTIONS, KNOWLEDGE AND ATTITUDES OF ZAMBIAN PEOPLE TOWARDS HIV/AIDS AND MALARIA</b>
	<b>Authors:</b>	Mudenda O. S.
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Regional Psychosocial support Initiative (REPSSI)
	<b>Status:</b>	Published in Meeting Abstracts <i>Int Conf AIDS</i> . 2004 Jul 11-16; 15: abstract no. ThPeE8176
	<b>Study Site(s):</b>	National
	<b>Source:</b>	Abstracts <i>Int Conf AIDS</i> . 2004 Jul 11-16; 15: abstract no. ThPeE8176

**Background:** In order to succeed in our mission of translating results from HIV/AIDS research into life saving programs, it is important to assess the perceptions, knowledge and attitude of the people towards HIV/AIDS and any other common illness like Malaria.

**Methodology:** Focus group discussions and feedback reports, structured and in depth interviews, systematic random sampling, questionnaires, verbal/oral interviews and discourse analysis. To have a balanced assessment the study had multi-sectoral approach by involving professional medical practitioners, people living with HIV/AIDS and those infected with Malaria, all above the age of eighteen (18) years.

**Results:** HIV/AIDS and Malaria are two of the widest spread killers in Zambia today resulting in 80% combined death. Both weaken the people and the economy, therefore eradicating or preventing both can improve the economy. HIV/AIDS is associated with stigma and discrimination. From a pool of 500 individuals, gender unbalanced, 74% of those HIV/AIDS infected respondents preferred calling their illness "Malaria" even when indicators/symptoms point otherwise. This stigma and discrimination is due to the fact that HIV/AIDS in Zambia is still associated with indiscriminate heterosexual vaginal intercourse. Shame and fear of HIV/AIDS related stigma is a common reason for declining voluntary testing, thus preventing many infected people from receiving the much needed care and support services. Meanwhile it is evident that patients with lower CD4 cell count tends to have more Malaria attacks and higher parasite density. Conclusion more than 76% of the people in Zambia are very knowledgeable about HIV/AIDS and Malaria. HIV/AIDS is perceived as for the sexually immoral because of the initial AIDS awareness campaigns which underplayed the other modes of transmission. The results support the hypothesis of HIV/AIDS increasing the Malaria risk.

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<b>39.</b>	<b>TITLE:</b>	<b>SOCIAL SILENCE AND THE TRANSPORT SECTOR, CONSPIRE IN-SCHOOL GIRL'S VULNERABILITY TO HIV</b>
	<b>Authors:</b>	Bulawo N.D <sup>1</sup> , Zulu K <sup>2</sup> and Zulu W <sup>2</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	Zambia Association for the Prevention of HIV AND Tuberculosis
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. MOAD0302
	<b>Study Site(s):</b>	Lusaka, Ndola, Kitwe, Mufulira, Kabwe and Luanshya
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. MOAD0302

**Background:** Objectives were to examine the sexual relationships between in-school girls and Bus Drivers and Conductors (BDCs) and the frequency with which they engage in unprotected sex. Analyse factors propelling HIV/STI transmission and assess vulnerability of girls and BDCs to HIV/AIDS in Zambia.

**Methodology:** The study instrument was a questionnaire in which some answers were given orally and others in writing. The sample consisted of 1200 in-school girls aged 14-18 and 840 BDCs aged 15-35 in six cities of Zambia. (Lusaka, Ndola, Kitwe, Mufulira, Kabwe and Luanshya)

**Results:** 61% of BDCs reported having unprotected sex with in-school girls and their wives in the last twelve months, 38% reported having had an STI, but blamed sex workers for it. 18% reported having sex with in-school girls only. 73% thought in-school girls are a safe sex zone. 34% did not use a condom at last sex. In contrast, in-school girls reported having multiple BDCs sex partners in classes of lunch, free transport and for pleasure. 12% reported having an STI. 37% reported having unprotected sex with fellow in-school peers. 78% reported initiation through peers and 17% by choice. 41% did not use a condom at last sex. Below 1% attempted to seek VCT services.

**Conclusions:** The analysis of data suggests that the transport sector is at the core of the vicious circle of STIs and HIV transmission from adults to children below the age of 17. Data further suggest unreported child defilement and molestation which constitute a moral and child health crisis in Zambia if not in Africa. Social conspiracy of silence is undoing achievements in children's rights, health and welfare in the past decade. On the flip side of child defilement and molestation is the local transport industry and its staff who have been left unattended to by HIV prevention programs.

<b>40.</b>	<b>TITLE:</b>	<b>DILEMMAS FACING WOMEN ON ISSUES OF HIV AND CULTURE IN A RURAL SETTING.</b>
	<b>Authors:</b>	Sibande M.N.1, Manda C.M.1 and Ponde F <i>et al</i>
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	Zambart
	<b>Status:</b>	Published in The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe11.9C05
	<b>Study Site(s):</b>	Liteta
	<b>Source:</b>	The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe11.9C05

**Introduction:** Since the appearance of HIV/AIDS on the globe more women are being affected other than just their biological make up. Cultural norms in the African setting like Zambia have also played their role in exposing women to HIV infection.

**Methodology:** A community meeting was held with 24 rural women in Kabwe Liteta district to know the problem facing women in this era of HIV. The women were of mixed marital status with a majority being the married (12); 6 either divorced or separated 6 were single.

**Results:** Sexual obligations: All the women said it was taboo culturally to deny the man sex especially under the marriage setting even if risky sexual behaviour was noted in the husband. Condom use: All the women had heard about condoms and some of them were even given condoms by nurse at one time but they said as a woman you can introduce them to your husband as he was the head of the house. VCT services: Going for VCT posed as a risk of losing a partner if you were found to be positive leading to shunning this service or never disclosing your test results to anyone. The caring burden: As a woman you are expected to take care of your partner in times of sickness exposing yourself to infections while if it's a woman who is sick your mother is expected to nurse you. MTCT services: They wondered why it is more interested in the welfare of the child not both because that baby will need the mother to grow well.

**Conclusions:** Revisit cultural norms which are binding and risky to HIV. Involve the chiefs in educating the men-folk because when a chief speaks our men can listen to him more than women. Government, donors and health authorities to protect the woman as well.

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41.	<b>TITLE:</b>	FEMALE AND CULTURAL PRACTICES IN DEVELOPING COUNTRIES
	<b>Authors:</b>	Chilobwa S K
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	Young Women's Christian Association, Lusaka, Zambia
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. WePeD6465
	<b>Study Site(s):</b>	Zambia and Kenya
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. WePeD6465

**Issue:** Most cultural practices relating to sexuality and sex increase women's/girl's vulnerability to HIV/AIDS infection and transmission. Prominent in Africa, these practices are culturally sanctioned and hinder efforts aimed at eliminating them. Lack of knowledge and misinformation about HIV/AIDS may actually lead to an increase in these harmful practices.

**Description:** This paper will highlight some of these harmful practices e.g. early marriages, female genital mutilation, Levirate, Initiation rites, dry sex and cleansing of a widow after death of spouse. These elements will involve an analysis of how they influence HIV vulnerability and prevention among women/girls. This paper will also involve an analysis of the community need for sensitisation and educational activities for traditional leaders, promotion of the role of media in sensitising and educating the public on the link between HIV/AIDS and harmful cultural practices. This paper is based on personal experiences as a reproductive Health specialist with Y.W.C.A, UNFPA, Youth Advisory Group (YAG/ ZIHP) and as a Radio presenter (Dj) with Choice fm in Zambia.

**Lesson Learned:** The proliferation of promoting the role media in sensitising and educating the public is an effective way to: access, educate, and support people and agencies engaged in advocacy work at the community level especially at rural level.

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**Recommendation:** Promote the role of the media, positive aspects of cultural values, alternative rite of passage as in Kenya so as to move forward in the fight against HIV/AIDS.

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<b>42.</b>	<b>TITLE:</b>	<b>PREVENTING HIV WITH YOUNG PEOPLE: A CASE STUDY FROM ZAMBIA</b>
	<b>Authors:</b>	Gill G and Mwale V
	<b>Year:</b>	2005-2006
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Eastern Province
	<b>Org/Inst:</b>	President's Emergency Plan for AIDS Relief (PEPFAR)
	<b>Source:</b>	Kigali Conference on PEPFAR Implementers

The US President's Emergency Plan for AIDS Relief (PEPFAR) is funding thousands of community-based organisations, international NGOs and government services in high HIV prevalence countries to persuade young people to abstain from sex until marriage (Abstinence, Behaviour Change, and Youth – ABY). This paper describes how this strategy is being implemented in Zambia, and community responses to it. It is derived from published information and observations and discussions in the Eastern Province in 2005–2006. A few NGOs have challenged the strategy, but many took the funds and are paying large numbers of peer educators to promote abstinence only. Messages are rife that condoms have holes or don't work sufficiently well to make them worth using. Condom promotion materials have been replaced.

Service providers refuse to give condoms to young people. Young people who had attended sexuality and life skills programmes that gave them accurate information are rejecting inaccurate messages and demanding condoms. Without this education, however, inaccurate messages will spread quickly. It is not possible to promote condoms only for high risk people without stigmatising both the people and condoms, and it also jeopardises promoting condom use for contraception. Everything possible must be done to reduce negative messages about condoms. Everyone involved in HIV/AIDS needs to reflect on their own work in relation to this new climate and ensure that all prevention options are widely available, correct information is given and condoms are available for everyone who needs them.

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<b>43.</b>	<b>TITLE:</b>	<b>GENDER DIFFERENCES IN HIV/AIDS KNOWLEDGE AND RISKY SEXUAL BEHAVIOURS AMONG THE UNIVERSITY OF ZAMBIA STUDENTS IN LUSAKA</b>
	<b>Authors:</b>	Himoonga U
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	University of Zambia
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	The University of Zambia

The objective of this study was to establish HIV/AIDS knowledge levels, risk sexual behaviours and presence of gender disparities among the students at the campus. The assumptions were that these students were more enlightened and therefore would understand issues better and have a more accepting attitude towards change of behaviour regarding HIV/AIDS related risks.

An analytical and comparative study design was utilized for this study and the study site was UNZA, Great East Road campus. A stratified random sampling technique was used to select the study sample. A total sample of 236 (118 from each sex) was randomly selected from resident undergraduate students who were below 30 years of age.

**The findings** revealed that most respondents (76.8%) were aged 21-25 years, 95.7% were single, 133 (56.1%) were sexually experienced, with 16 years as the sexual debut and 91% of those with partners had an age difference of 0-5 years with their partners.

**Bivariate analyses** yielded the following results; respondents had very high knowledge levels of HIV/AIDS and its palliative treatment although females had slightly lower knowledge levels than males, thus, 80% and 95% for females and males respectively. Although respondents exhibited high knowledge levels, this did not match their behaviour, ( $p<0.4530$ ). Statistically, gender and behaviour showed significant results with  $p=0.0000$ . About 11.2% of the respondents engaged in highly risky sexual behaviour; 53.8% of these were females while 46.2% were males. From this study, the conclusions are that the knowledge levels were high, but there was no association between knowledge and behaviour.

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44.	TITLE:	CIRCUMCISION RAZOR A PREVENTIVE TOOL OR A STRATEGIC VECTOR IN THE TRANSMISSION OF HIV? - A CASE OF ZAMBIA
	Authors:	Zulu K <sup>1</sup> , Bulawo N.D <sup>1</sup> and Zulu W <sup>2</sup>
	Year:	2005
	Org/Inst:	Zambia Association for Prevention of HIV and Tuberculosis
	Status:	Published in an Abstract Book for the AIDS 2006 - XVI International AIDS Conference: Abstract no. MOPE0344
	Study Site(s):	North-Western Province
	Source:	AIDS 2006 - XVI International AIDS Conference: Abstract no. MOPE0344

**Methodology:** 300 initiators working in the cultural site, in and around North-Western Province were interviewed with a structured questionnaire. Information on the instruments used to cut the foreskin, knowledge about HIV/AIDS and its transmission, exposure to infection and precautions was collected.

**Results:** 91% reported using a cultural recommended razor - copper-alum. 62% of initiators have very little understanding about occupational risk. An average of 432 children are attended to annually, 76% of children are brought in from the cities that have high HIV prevalence rates. 87% know about sexual transmission of HIV/AIDS, 13% know about transmission through blood transfusion. 6.5% know about the risk of HIV transmission by using the same razor. 67% reported using one razor repeatedly. Only 7.5% used surgical blades. 46% thought children may not have HIV. 61% cited copper-alum as a precaution itself and claimed that copper-alum is a killer of any germ.

**Background:** Ethnic groups in the north-western part of Zambia practice universal initiation culture of male circumcision. 10-14 old male children are taken to a cultural place called Mukanda, where they are confined for three months for circumcision. Objectives of this cross-sectional study were to assess safety precautions, identify initiation instruments and the knowledge of initiators regarding HIV/AIDS and occupational risk of transmission through infected blood.

**Conclusions:** Preventing new HIV infections in young people is the only way to stop and control the epidemic and the misery it brings. Awareness about occupational risk of HIV is very poor. Repeated use of un-sterile razors in circumcision is likely to undo the successes

that circumcision may play in stopping HIV and may contribute seriously to HIV/AIDS epidemic in Zambia. It emphasizes the need for oriented education to create awareness among initiators and conveying information in this concern, focused on motivation, modern practice and safe circumcision procedures.

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<b>45.</b>	<b>TITLE:</b>	<b>RAPID ASSESSMENT ON HIV/AIDS/STIS</b>
	<b>Authors:</b>	Sakala R, Bwalya A and Wamuyi B
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	Cross Border Initiative
	<b>Status:</b>	Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Chipata
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** The main objective of the study is to create a better understanding of successful approaches in alleviating problems faced by young people in Zambia.

**Methodology:** The study collected two types of data, namely Primary and Secondary. The approach entailed reviewing existing literature in the area of young people and HIV/AIDS.

**Results:** Young people from poverty hit families were not likely to practice preventing sexual behaviours than those from the less poverty hit families. Night club based young people especially young girls did not want to be identified, they were motivated by the desire to meet a man who would marry them and change their lives. As a consequence, night club based girls could not publicly acknowledge their risks of STIs/HIV infections. Hence many went against their better judgment by not using condoms.

**Conclusions:** These findings illustrate how social context can interact with personal identity to strongly influence young people to take precautions during high risk sexual encounters. A thorough understanding of issues of personal identity and social context can help improve the design of HIV/AIDS/STIs prevention interventions aimed at young people.

Funding Sources: Zambia National Aids Network (ZANAN)

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<b>46.</b>	<b>TITLE:</b>	<b>MICROBICIDES AND FEMALE CONDOMS THE ANSWER FOR FEMALE UNIVERSITY OF ZAMBIA STUDENTS IN ZAMBIA</b>
	<b>Authors:</b>	Katuta C and Sichuundu W
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	University of Zambia, Lusaka, Zambia
	<b>Status:</b>	Published in an Abstract Book for the XV International AIDS Conference: Abstract no. C10626
	<b>Study Site(s):</b>	University of Zambia
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. C10626

**Issue:** It has been observed that female students at the University of Zambia (UNZA) find it difficult to negotiate for safe sex with their partners. This failure for the female students to negotiate for safer sex has led them to have unexpected pregnancies, contracting Sexually Transmitted Infections (STIs) and HIV/AIDS. The major objective of the study was to find out why the female students fail to negotiate for safer sex.

**Methodology:** 100 individual interviews of the female students were conducted at the Lusaka Campus. Respondents were asked about safe sex, HIV/AIDS and others problems.

The students also finished a self administered written questionnaire about their safe methods, sexual activity and drug use (e.g. alcohol and illicit drug use)

**Results:** 80% of the female recognise that they face problems in negotiating for safe sex. 85% of the female student who took part in the study stated that the power imbalance between them and their male counter parts makes feel weak to ask for safe sex. 65% stated that having safe sex would send a wrong signal to their partners who may think that they are not faithful. 50% of the female students state that they have had least one unsafe sexual act by the time they reached their second year of study at the University. 70% state that there male partners have threaten them with violence least once because the male partner wanted to have unprotected sex. 70% of the female students support the introduction of female condoms and microbicides at the University as a means of empowering them in making safe sex decisions just like their male counterparts are able to do so.

**Conclusion:** There is need to introduce microbicides and awareness about female condoms at the University of Zambia. HIV/AIDS prevention and control messages must be strengthened particularly for students and the population in general.

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47.	<b>TITLE:</b>	<b>THE USE OF ANTIRETROVIRAL DRUGS FOR HIV POST-EXPOSURE PROPHYLAXIS (HIV-PEP) AFTER CHILD SEXUAL ABUSE, WHAT DO PEOPLE IN THE COMMUNITY IN LUSAKA KNOW ABOUT IT?</b>
	<b>Authors:</b>	Simwenda M <sup>1</sup> , Silwamba G <sup>2</sup>
	<b>Year:</b>	2004-2005
	<b>Org/Inst:</b>	<sup>1</sup> Ministry of Health and <sup>2</sup> Central Board of Health
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. THPE0549
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. THPE0549

**Issues:** anti-retroviral drugs are available at no cost for HIV Post-Exposure Prophylaxis (HIV-PEP) after child sexual abuse. In 2004, 363 children under 16 years of age were reported to have been sexually abused in Lusaka, Zambia and only 1.7% (6) of these children were put on HIV-PEP to reduce the risk of acquiring HIV infection after sexual abuse.

**Description:** This study was done to find out if people in Lusaka actually know about HIV-PEP and also to compare reported child sexual abuse cases of 2004 and 2005.

**Lessons learned:** 455 people were randomly sampled and interviewed (questionnaire-based). 97% (441) of these people did not know and have never heard of HIV-PEP. Only 3% (14) of the participants have heard about HIV-PEP, but do not know what it's all about. And their knowledge is not influenced by age, gender, occupation or educational level. In 2005, 954 children less than 16 years of age were reported to have been sexually abused in Lusaka, and of these children, only 7.1% (68) were put on HIV-PEP to prevent them from acquiring HIV after sexual abuse. It is clear that people in the community of Lusaka do not know about HIV-PEP and also that child sexual abuse cases are increasing, and still just a few children are put on HIV-PEP to reduce the risk of acquiring HIV after sexual abuse.

**Recommendations:** People in the community have to be educated about HIV-PEP after child sexual abuse and also about its importance in the prevention of the spread of HIV/AIDS. This way, the number of children put on HIV-PEP after sexual abuse can be

increased, and therefore will be able to prevent more children from acquiring HIV after sexual abuse. And also, it should be emphasized that child sexual abuse is an important aspect that needs critical attention in the prevention of HIV/AIDS.

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<b>48.</b>	<b>TITLE:</b>	<b>AWARENESS OF HIGH RISK BEHAVIOURS OF HUMAN IMMUNE VIRUS (HIV) TRANSMISSION BY YOUNG RURAL PEOPLE IN KATETE DISTRICT, ZAMBIA.</b>
	<b>Authors:</b>	Kinkese D. M.
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	Leeds Metropolitan University
	<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Katete
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** The objectives of this research study were used to identify the degree of awareness by young rural people (12-16 years of age) of high-risk behaviours related to catching and transmitting HIV; to use the information to identify the strategic control measures for the prevention and the control of HIV targeted to young people to be included in the national intervention HIV/AIDS policy; to relate the conclusion to the level of sex education in schools and to discuss the most effective HIV/AIDS interventions which would have maximum impact in young people.

**Main Findings:** The results showed that all of the children were at some risk of HIV infection, but that the level and cause of this risk differed between the groups. Among girls, the focus group of school drop out girls was particularly at risk. The majority of school drop out girls did not know what caused the HIV and that children could catch HIV/AIDS. However the focus group of dropped out of schoolboys was also particularly at more risk, the group believed that witchcraft transmitted HIV/AIDS. The proportion of boys and girls without information on HIV/AIDS was about 33.5 % of the girls and 23.5 % of the boys. In addition most of the girls did not know what caused HIV/AIDS and only three boys did (16.5 %) that meant 5 % of interviewed young people had known the cause of HIV. While some girls could have some sex education most of the boys did not have sex education, they learnt from the street. Condoms were not used most of the times. The level of understanding of high-risk behaviours among young people was generally very low.

**Conclusions:** This study has identified low awareness of high-risk behaviours of HIV transmission among young people, by establishing inadequate awareness on HIV infection in young people interviewed in Katete. Some misconception has also been revealed coupled with differences between attitudes towards high-risk behaviours and practice.

Funding Sources: The World Health Organisation and the Zambian Government made this study possible through a study grant

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<b>49.</b>	<b>TITLE:</b>	<b>WHY IS SATANISM LINKED TO HIV TESTING AND HIV PREVENTION PROGRAMMES AND ACTIVITIES IN ZAMBIA?</b>
	<b>Authors:</b>	Bond V <sup>1, 2</sup> , Colson E <sup>3</sup> and Kafuma T <sup>1</sup> V <i>et al</i>
	<b>Year:</b>	2003

<b>Org/Inst:</b>	<sup>1</sup> Zambart Project, School of Medicine, Zambia; <sup>2</sup> London School of Hygiene and Tropical Medicine, U.K.; <sup>3</sup> University of Berkeley,
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	Gwembe, Luapula, Copperbelt, Lusaka (Misisi, Kamwala, and Chipata compounds), Choma (Mbabala)
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Objectives:** To understand/unravel the association between Satanism and HIV in Zambia; To assess the scale and harm of this association on HIV programmes and activities; To give examples of how to challenge this association; To gather from conference participants their experiences and interpretations of the association.

Design: Analysing material from a variety of research studies conducted from the 1990s onwards in Zambia by the authors. In addition, for the purpose of this presentation, one focus group discussion will be conducted with a group of health workers, researchers and PLWHA.

Study Settings and Populations: Diverse number of communities and ethnicities interviewed within different research studies— namely: Gwembe Tonga, Luapula, Copperbelt, Lusaka (Misisi, Kamwala, and Chipata compounds), Choma (Mbabala).

**Results:** There is a widespread belief in the existence of Satanists in Zambia; namely people who feed off and exploit human blood and/or body parts. Documented by the various research studies, it is evident that for a minority of people, this belief prevents them either accessing (or participating in) a variety of HIV programmes and related research projects (VCT, PMTCT, skills building, ARVs) or prevents them accepting incentives (drinks, snacks, home visits, money, free drugs, free health care). The blood taking involved in some of the programmes instigates fears about the use and exploitation (selling) of blood and any linked incentives or drugs evokes fears of entering into an obligation with potential Satanists or indeed of being poisoned. In health care settings, it is mostly health workers and outsiders ('whites') who are accused of being Satanists.

Historically, the discourse about Satanism can be traced to Pentecostal churches in the United States in the 1980s. This discourse has apparently filtered through to Zambia, carried on the wave of Christianity experienced by Zambia from the late 1980's onwards. Satanic rumours are becoming more frequent and have assimilated with fears about *kamunyama* (abductors of victims killed for blood and body parts). These fears combine with high HIV prevalence (and untimely death), mistrust of health workers and researchers, moral church discourse and other HIV conspiracy theories.

Funding Sources: DFID, SIDA, USAID, Wellcome Trust, WHO

<b>50.</b>	<b>TITLE:</b>	<b>POLYGAMY, A CULTURAL INFLUENCE OF HIV/AIDS TRANSMISSION FOR THE TONGA OF SOUTHERN PROVINCE ZAMBIA</b>
	<b>Authors:</b>	Nkunika M and Kalipenta J
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	Steadfast
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Southern Province

**Source:** Abstract Book, 3rd National Health Research Conference, Zambia

**Background:** The study objective is to assess the strength of cultural practices in pre-disposing people to behaviour leading to HIV infection. Among the Tonga, virility, well-being, wealth and prosperity are traditionally measured through, *inter alia*, polygamy, many children, dowries, many cattle, sexual exploits outside marriage by men. These practices exist in gender insensitive environments where women have little say in men's behaviour. Women and girls are exposed to HIV/AIDS in situations where they are powerless and vulnerable sexually.

**Methodology:** Qualitative and quantitative information was collected from consensus building workshops with Village Headpersons and their secretaries (170), 200 Smallholder farmers, 78 Widows and 155 Youths; focus group discussions with 30 peer educators, interviews with 2 chiefs, community field reports and individual testimonies.

**Results:** While many chiefs have implemented measures abolishing ritual cleansing by sexual intercourse, there are pockets where this is still practiced and demanded. Widow inheritance is becoming less frequent. Communities are aware of the mode of HIV transmission, risky behaviours, preventive strategies and indicators of behaviour change from anti-AIDS campaigns over the past two decades. Low literacy levels in rural areas still perpetuate superstitious beliefs.

On the positive side, communities are now playing a more active role in prevention of the further spread of HIV transmission. Many of the most rigid and deeply entrenched negative cultural practices have been substituted or abolished. There are still difficulties in accepting condoms particularly in marriage situations in both rural and urban areas, sometimes due to church influences. The biggest challenge is that polygamy can leave 5 to 6 women or more and up to 30 to 60 or more children orphaned by the demise of one man.

**Conclusion/Recommendations:** Urgency is needed to persuade polygamous people to accept safer sex practices such as condom use (since the AB does not apply to them), strengthen positive cultural and traditional support systems and deal with poverty as a contributory factor to polygamy.

51.	<b>TITLE:</b>	<b>BRIDGING THE HIV PREVENTION GAP VIS-À-VIS LOOSING LEGITIMACY</b>
	<b>Authors:</b>	K. Zulu, N.D. Bulawo, W. Zulu
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Zambia Association for Prevention of HIV and Tuberculosis
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0336
	<b>Study Site(s):</b>	Livingstone, Ndola, Lusaka, Mansa, Kitwe and Nchelenge
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0336

**Issues:** Laws continue to exclude part of the overall HIV epidemic in Zambia. The 2004 study on Men who have Sex with Men (MSM), 68% reported having unprotected anal sex with both men and women. 35% had their first anal sex with a relative. 40% thought anal sex is safer than vaginal sex. 70% know that they cannot be infected through anal sex. Policy-makers deny that male-to-male sex occur despite documented evidence that unprotected anal sex between men is at the core of HIV transmission.

**Description:** Unprotected anal sex is several times risky than unprotected vaginal intercourse with an HIV-infected man (UNAIDS). In an attempt to bridge the gap in the

prevention of HIV among MSM, ZAPHIT consequently developed an HIV program targeted at MSM. But this initiative cannot take root as funders with interest to fund the initiative are threatened with expulsion from the country. Local AIDS Service Organizations (ASOs) who share ZAPHIT stance risk losing legitimacy through deregistration by government. Decision-makers resist evidence and knowledge of how HIV infection is spread among and from MSM to heterosexuals.

**Lessons learned:** Unprotected anal sex is at the core of HIV transmission in many Zambian contexts with consequences for infections, subsequently transmitted heterosexually. Non-existence of HIV prevention programs for MSM is an impediment to condom use and risk behaviour reduction. Punitive approaches have driven MSM who need prevention and care services underground. ASOs have abandoned to bridge the gap in HIV prevention for fear of losing legitimacy.

**Recommendations:** Authorities must recognize that preventing the transmission of HIV is complex. Discriminatory laws on MSM must be repealed to create an environment where people are free to acknowledge their sexual identity, to seek information, experience the support of peers and role models, to receive services that fit, rather than exclude their experiences.

### **Strategic objective 2: Prevent mother to child transmission**

<b>52.</b>	<b>TITLE:</b>	<b>CHALLENGES OF PMTCT PROGRAM IMPLEMENTATION IN RURAL ZAMBIA.</b>
	<b>Authors:</b>	Ng'uni C, Lubasi T and McFarlane Y <i>et al</i>
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	Mongu District Health Management Team
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Mongu
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Description:** Our team established PMTCT services in Mongu District, Western Province of Zambia. Mongu is a remote provincial capital of just under 200,000 people, with an estimated 8,000 deliveries per year and an HIV prevalence rate among pregnant women of 30%. Only 1 in 3 births occur in a health facility, and the antenatal care attendance rate is the lowest in Zambia. Knowledge about HIV/AIDS and its prevention is also low: only half of women are aware that HIV can be transmitted from mother to child. Sparsely populated, the distance between clinics and town centre is vast – as much as 5 hours by 4-wheel drive vehicle. Some clinics are inaccessible for months each year due to flooding of the Zambezi river plains. These conditions increase transport costs, complicate supply management and data reporting, and impede the project's ability to upgrade physical infrastructure. Over half of the 28 clinics have only one trained staff member. District clinical staffing is at 50%, with 100% shortfall at the highest level of medical staff and 35% shortfall of nurses. Seven lab techs are budgeted but the district has only one. Lack of physical infrastructure and resources is of critical concern; only 9 clinics have electricity and 22 of the 28 need delivery beds.

**Conclusions:** PMTCT in rural areas requires more fundamental infrastructural, administrative, and training support than similar programs in urban clinics. PMTCT can serve as a foundation for HIV prevention and treatment programs. In addition to standard training and supplies, exceptional transport, infrastructure support, and staff retention incentives are essential for rural PMTCT implementation. Non-traditional staff such as

traditional birth attendants, Certified Daily Employees (CDEs), and community lay counsellors must be considered if widespread availability of services is to be assured.

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<b>53.</b>	<b>TITLE:</b>	<b>NO BENEFIT OF EARLY CESSATION OF BREASTFEEDING AT 4 MONTHS ON HIV-FREE SURVIVAL OF INFANTS BORN TO HIV-INFECTED MOTHERS IN ZAMBIA: THE ZAMBIA EXCLUSIVE BREASTFEEDING STUDY</b>
	<b>Authors:</b>	Walter J <sup>1</sup> , Mwiya M <sup>2</sup> and Kuhn L <sup>1</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	University of Zambia Dept of Community Medicine Center for HIV Information, University of California
	<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

The Zambia Exclusive Breastfeeding Study (ZEBS) aimed to test whether or not there is net benefit of stopping breastfeeding abruptly at 4 months.

**Methodology:** At two clinics in Lusaka, Zambia, 958 HIV-infected women and their infants were recruited prenatally, given single-dose nevirapine, and randomised postnatally into 1 of 2 groups: Group A – abrupt cessation of breastfeeding at 4 months and Group B – continued breastfeeding for the duration of the mothers’ informed choice. Exclusive breastfeeding (EBF) was promoted in both groups. Pairs were followed for 24 months and HIV infection was diagnosed by PCR. The primary outcome was HIV-free survival.

**Results:** Overall follow-up to HIV infection, death or 24 months (85%) and EBF compliance through 4 months were high (> 90%). There was no significant difference in HIV-free survival between the two randomised groups. Restricting the analysis to infants surviving HIV-uninfected at 4 months, 17% of 329 infants in Group A and 19% of 331 infants in Group B had HIV infection or had died by 24 months of age ( $p=0.21$ ). Among 153 HIV-infected infants diagnosed by 4 months, there was a significant benefit for continued breastfeeding: mortality was higher by 12 months in group A (57%) than in group B (29%,  $p=0.01$ ). Weaning compliance in Group A was modest: 65% reported stopping all breastfeeding by 6 months. The median duration of breastfeeding in Group B was 16 months. In an as practiced analysis, there was no significant difference in HIV-free survival overall between infants breastfed for < or > 6 months. For asymptomatic mothers with higher CD4 counts ( $>350$ ), there was a trend towards better outcomes for infants if they were breastfed longer than 6 months ( $p=0.057$ ).

**Conclusions:** Our results caution against early cessation of breastfeeding for HIV-infected women living in low resource settings. In our study, stopping breastfeeding at 4 months resulted in a less than anticipated reduction of HIV transmission; a benefit that was offset by increased mortality among uninfected infants. There was also a substantial mortality risk associated with stopping breastfeeding early among already HIV-infected infants. Programs providing HIV diagnosis services should strongly encourage continued breastfeeding for infants found to be HIV-infected.

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<b>54.</b>	<b>TITLE:</b>	<b>CHALLENGES OF PMTCT PROGRAM</b>
	<b>Authors:</b>	O'Meara T <sup>1</sup> , Lubasi T <sup>2</sup> , Kolsky R <sup>2</sup> . <i>et al</i>

<b>Year:</b>	2004
<b>Org/Inst:</b>	<sup>1</sup> Center for Infectious Disease Research in Zambia, Lusaka, Zambia; <sup>2</sup> Mongu District Health Management Team, Mongu, Zambia;
<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. WePeE6778
<b>Study Site(s):</b>	Mongu
<b>Source:</b>	The XV International AIDS Conference: Abstract no. WePeE6778

**Issues:** PMTCT has proven feasible and cost-effective in urban Zambia. Systematic and programmatic challenges arise as services expand to remote or rural areas.

**Description:** Our team established PMTCT services in Mongu District, Western Province of Zambia. Mongu is a remote provincial capital of just under 200,000 people, with an estimated 8,000 deliveries per year and an HIV prevalence rate among pregnant women of 30%. Only 1 in 3 births occur in a health facility, and the antenatal care attendance rate is the lowest in Zambia. Knowledge about HIV/AIDS and its prevention is also low: only half of women are aware that HIV can be transmitted from mother to child. Sparsely populated, the distance between clinics and town centre is vast - as much as 5 hours by 4-wheel drive vehicle. Some clinics are inaccessible for months each year due to flooding of the Zambezi river plains. These conditions increase transport costs, complicate supply management and data reporting, and impede the project's ability to upgrade physical infrastructure. Over half of the 28 clinics have only 1 trained staff member. District clinical staffing is at 50%, with 100% shortfall at the highest level of medical staff and 35% shortfall of nurses. 7 lab techs are budgeted but the district has only 1. Lack of physical infrastructure and resources is of critical concern; only 9 clinics have electricity and 22 of the 28 need delivery beds.

**Lessons learned:** PMTCT in rural areas requires more fundamental infrastructural, administrative, and training support than similar programs in urban clinics. PMTCT can serve as a foundation for HIV prevention and treatment programs.

**Recommendations:** In addition to standard training and supplies, exceptional transport, infrastructure support, and staff retention incentives are essential for rural PMTCT implementation. Non-traditional staff such as traditional birth attendants must be utilized to ensure widespread availability of services.

<b>55.</b>	<b>TITLE:</b>	<b>DETERMINANTS OF KNOWLEDGE ON PMTCT OF HIV AMONG PREGNANT WOMEN ATTENDING ANTE-NATAL CLINIC IN NDOLA URBAN DISTRICT</b>
	<b>Authors:</b>	Ng'ambi H
	<b>Year:</b>	2004
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Ndola Urban
	<b>Organization:</b>	The University of Zambia, School of Medicine
	<b>Source:</b>	The University of Zambia, School of Medicine

**Objective:** The main objective of the study was to establish the determinants of knowledge on MTCT of HIV among pregnant women attending ANC in Ndola Urban District

**Design:** This was a cross sectional study, which took an analytical approach. Using a Likert scale, two groups of women were generated, one group was knowledgeable and the other was not knowledgeable. A structured interview schedule was used to establish the determinants of their knowledge. Settings: The study covered six health centres, two from

each of the three zones in Ndola Urban District in the Copperbelt province of Zambia. Subjects: The subjects consisted of 300 consenting pregnant women who were randomly selected from antenatal clinics.

**Main Outcome Measures:** Pregnant women's knowledge levels on MTCT of HIV measured as knowledgeable or not knowledgeable and factors that influenced the knowledge on MTCT of HIV among the pregnant women were seen as the main outcome measures.

**Conclusion and Recommendations:** The study concluded that there was an association between education level; listening to the radio everyday; healthcare providers' reception; accessibility to VCT centres; going to VCT centres and knowledge on MTCT. The study also concluded that younger women aged between 15 and 24 were not knowledgeable on MTCT of HIV. The report concluded with recommendations that there was an urgent need for target specific interventions in disseminating of information; improving the utilization of VCT centres; intensifying IEC in healthcare settings; ensuring women aged 15-24 have access to the right information, education and services; and that both electronic media and print media should continue to be used in disseminating information on MTCT of HIV infection using local languages.

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56.	<b>TITLE:</b> INFANT FEEDING PRACTICE FALLS SHORT OF RECOMMENDATIONS IN PILOT PMTCT SITES IN ZAMBIA AND KENYA <b>Authors:</b> Kiragu K, Eerens P and Rutenberg N. <i>et al</i> <b>Year:</b> 2000-2002 <b>Org/Inst:</b> HORIZONS <b>Status:</b> Published in the abstract book for the XV International AIDS Conference: Abstract no. WePeE6837 <b>Study Site(s):</b> Chipata Compound, Lusaka <b>Source:</b> The XV International AIDS Conference: Abstract no. WePeE6837
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**Methodology:** Researchers compared the infant feeding practices, based on a 24-hour recall, of mother and infant pairs before the introduction of PMTCT and among women who received PMTCT services in 2000-2002 at Chipata Clinic in Lusaka, Zambia (n=264 and 374; mothers of 3 month old infants), and district hospitals in Karatina (n=328 and 412; mothers of 6 week old infants) and Homa Bay (n=329 and 313; mothers of 6 week old infants) in Kenya. Midwife/counsellors administered questionnaires to HIV-positive and HIV-negative women.

**Results:** A slightly larger proportion of women who were exposed to PMTCT services reported using replacement feeding (9.8% vs. 2.4% in Lusaka; 4.4% vs. 0.3% in Karatina; 4.0% vs. 1.9% in Homa Bay). There was no significant change from the undesirable practice of mixed feeding to the safer practice of exclusive breastfeeding; 37%, 69% and 70% of women in Lusaka, Karatina and Homa Bay, respectively, continue to practice mixed feeding. Exclusive breastfeeding declined significantly in Karatina (34% vs. 27%, p<.05).

**Conclusions:** Promoting good infant feeding practices is challenging and PMTCT activities at pilot sites have failed to have an impact to date. PMTCT providers should extend infant feeding counselling beyond antenatal care visits, following-up in the postpartum period when women are making decisions about how to feed their infants and grappling with the implementation of their choices.

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57.	<b>TITLE:</b>	IN AN URBAN AFRICAN SETTING, THE COST – EFFECTIVENESS OF PMTCT SERVICES IMPROVES AS SERVICES EXPAND
	<b>Authors:</b>	McFarlane Y, Sinkala M and Ng'uni <i>et al</i>
	<b>Year:</b>	2001-2004
	<b>Org/Inst:</b>	Central Board of Health, Zambian Ministry of Health
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Methodology:** We analysed expenditures and process indicators to estimate cost-effectiveness.

**Background:** In Oct 2001, we initiated a NVP-based program for prevention of mother-to-child HIV transmission (PMTCT) at two clinics in Lusaka, Zambia. We sought to deploy services quickly and efficiently and relied heavily upon existing staff in the Lusaka District to provide counselling and other aspects of service provision. Within two years of operation, we expanded services to 24 clinics and the University Teaching Hospital.

**Results:** Between October 2001 and August 2004, we had 109,599 new antenatal attendees, of whom 86,725 (79%) were tested for HIV. 20,443 (24%) were seropositive. 16,399 (80%) mothers were given NVP, and 7,034 (42%) infants were given NVP. We spent US \$789,903 over this 35-month period: \$171,792 on dedicated PMTCT personnel, \$115,289 on over-time shifts for the existing district staff, \$135,349 on back-up supplies for the clinics (e.g. RPR test kits, confirmatory HIV test kits), \$25,837 on equipment (e.g. 2 vehicles, computers, refrigerators), \$15,933 on transportation, \$211,731 on administrative costs, and \$113,972 on training. Determine test kits and nevirapine were donated. If we subtract the start-up costs, which include purchase of equipment and training, the total cost of administering the program for 35 months was \$504,754. In the initial 6 months of operation, the cost of administering the entire program was US\$13 per patient counselled, US\$88 per seropositive woman identified, US\$146 per dose of maternal NVP dispensed, or US\$890 per infection averted (assuming only those receiving full mother-infant course of NVP benefited). These costs have decreased to US\$3.55 per patient counselled, US\$23 per seropositive woman identified, US\$24 per dose of maternal NVP dispensed, or US\$149 per infant infection averted during the last 6 months of operation.

**Conclusion:** As programs grow and become increasingly integrated into routine services, their cost-effectiveness increases dramatically. Systems planning PMTCT service expansion should separate up-front training and capital expenditures from program maintenance costs.

58.	<b>TITLE:</b>	[ALPHA]-DEFENSINS IN THE PREVENTION OF HIV TRANSMISSION AMONG BREASTFED INFANTS
	<b>Authors:</b>	Kuhn L*; Trabattoni D +; Kankasa C <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	University Teaching Hospital
	<b>Status:</b>	Published in the JAIDS Journal of Acquired Immune Deficiency Syndromes. 39(2):138-142, June 1, 2005
	<b>Study Site(s):</b>	Lusaka

**Source:** JAIDS Journal of Acquired Immune Deficiency Syndromes. 39(2):138-142, June 1, 2005

[alpha]-Defensins have been observed to have anti-HIV activity but have not been investigated in relation to mother-to-child HIV transmission. We measured the concentration of [alpha]-defensins in breast milk of HIV-positive mothers and tested whether the concentrations were associated with HIV transmission. A nested case-control study of 32 HIV-positive women who transmitted HIV to their infants and 52 randomly selected HIV-positive women who did not transmit HIV to their infants was conducted in Lusaka, Zambia. [alpha]-Defensins were detected in most (79%) of the milk samples tested. Concentrations of [alpha]-defensins increased as breast milk HIV RNA quantity increased, and breast milk HIV RNA quantity was, in turn, a strong and significant predictor of HIV transmission. After adjustment for milk HIV RNA quantity, however, [alpha]-defensin concentration was significantly associated with a decreased risk of intrapartum and postnatal HIV transmission (odds ratio = 0.3, 95% confidence interval: 0.09-0.93). Our data suggest that there may be a role for [alpha] - defensins in prevention of HIV transmission to breastfed infants.

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**59.**      **TITLE:**      **BARRIERS TO UPTAKE OF PREVENTION OF MOTHER-TO CHILD TRANSMISSION OF HIV SERVICES IN LUSAKA, ZAMBIA: A QUALITATIVE STUDY**

**Authors:** Washington S<sup>1</sup>, Bond G<sup>2</sup>

**Year:** 2003

**Org/Inst:** <sup>1</sup>Harvard Medical School, Boston, United States; <sup>2</sup>London School of Hygiene and Tropical Medicine

**Status:** Published; The XV International AIDS Conference: Abstract no. TuPeD5036

**Study Site(s):** Lusaka Health District Clinics

**Source:** The XV International AIDS Conference: Abstract no. TuPeD5036

**Methodology:** 20 in-depth interviews were conducted with patients at three clinics in the Lusaka Health District, and nine interviews were conducted with key informants. Data was collected on the nature of women's marital relationships, family support systems, community attitudes, and on their experience of PMTCT services. Thematic analysis was done using the framework approach.

**Results:** The main barriers to uptake of PMTCT were: (1) Fear of husband's anger, blame, or beating. (2) Fear of abandonment or eviction. (3) Rumours that HIV blood testing was for satanic purposes. (4) Fear that finding out one's status would lead to premature death due to wasting, depression, or suicide. (5) Lack of emphasis on Nevirapine during counselling. (6) Distrust of the medicine and health care providers. (7) Lack of maternal benefits.

**Conclusions:** For many women, the perceived risks of blame, domestic violence, abandonment, or divorce, in the context of financial dependence and systematic gender inequality, outweighed the perceived benefits of confirming one's HIV status. As a result many women refused testing. This research describes in detail how women's subordinate relationship with their husbands and unequal position in society constitute a fundamental barrier to women's access to services and shape their experience of PMTCT. It reveals the importance of taking into account gender analysis and community attitudes when implementing HIV prevention and treatment programs.

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60.	<b>TITLE:</b> INNOVATIVE BOTTLENECK-SOLVING STRATEGIES FOR TAKING PMTCT PROGRAMS TO SCALE: LEARNING FROM PROVEN COUNTRY EXPERIENCES <b>Authors:</b> Ngashi N. <sup>1</sup> , Luo C. <sup>1</sup> and Mulenga D. <sup>2</sup> <i>et al</i> <b>Year:</b> 2005 <b>Org/Inst:</b> <sup>1</sup> UNICEF; <sup>2</sup> IATT <b>Status:</b> Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. TUPE0364 <b>Study Site(s):</b> Botswana, Burundi, Kenya, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe <b>Source:</b> AIDS 2006 - XVI International AIDS Conference: Abstract no. TUPE0364
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**Background:** New HIV infections in children through MTCT continue to rise because of our failure to scale up known high impact interventions. Specific challenges include limited geographical coverage, weak health systems, inadequate community engagement and lack of effective coordination to oversee implementation. UNICEF and the IATT reviewed progress and country experiences to draw lessons for accelerating scale up.

**Methodology:** A questionnaire was administered through UNICEF offices to collect program coverage data for 2004 from governments. Of the 63 countries surveyed, data from 59 with 86% of HIV-infected women was included in the final analysis. Further validation of information was conducted through extensive literature reviews, key informant interviews and consultation with UNAIDS.

**Results:** Overall ART prophylaxis coverage has increased from 2% in 2003 to 9% in 2004. In 8 initial pilot countries (Botswana, Burundi, Kenya, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe), there was more than a 10-fold increase in pregnant women HIV testing and receiving ARV prophylaxis between 2002-2004. 9 of the surveyed countries provided ARV prophylaxis to over 45% of HIV-infected women. However, most countries are still lagging behind the 2010 UNGASS operational target of 80% access. Despite the poor program coverage, countries are beginning to address some of the key bottlenecks: Using a decentralised approach to scale up, Cameroon and Zambia increased the number of sites from 64 to 420 in three years and 80 to 254 in one year respectively; Botswana increased HIV testing uptake from 75% to 90% within three months after introduction of routine offer of HIV testing, the mothers program in South Africa and the male championship in Malawi have contributed to greater community involvement.

**Conclusions:** Numerous evidence-based bottleneck-solving strategies now exist. These experiences need to be rapidly documented and disseminated to guide global programming if the universal access goal and 2010 PMTCT UNGASS target are to be achieved.

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61.	<b>TITLE:</b> SINGLE-DOSE TENOFOVIR AND EMTRICITABINE FOR REDUCTION OF VIRAL RESISTANCE TO NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITOR DRUGS IN WOMEN GIVEN INTRAPARTUM NEVIRAPINE FOR PERINATAL HIV PREVENTION: AN OPEN-LABEL RANDOMISED TRIAL <b>Authors:</b> Chi B, Sinkala M, Mbewe F, <i>et al</i> <b>Year:</b> 2007
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**Org/Inst:** Centre for Infectious Disease Research in Zambia, Lusaka, Zambia  
**Status:** Published by [Lancet](#). 2007 Nov 17; 370(9600):1698-705.  
**Epub:** 2007 Nov 7  
**Study Site(s):** Lusaka  
**Source:** [Lancet](#). 2007 Nov 17;370(9600):1698-705. Epub 2007 Nov 7

**Background:** Intrapartum and neonatal single-dose nevirapine are essential components of perinatal HIV prevention in resource-constrained settings, but can induce resistance to other non-nucleoside reverse transcriptase inhibitor drugs. We aimed to investigate whether this complication would be reduced with a single peripartum intervention of tenofovir and emtricitabine.

**Methods:** We randomly assigned 400 HIV-infected pregnant women who sought care at two public-sector primary health facilities in Lusaka, Zambia. One was excluded, 200 were assigned to receive a single oral dose of 300 mg tenofovir disoproxil fumarate with 200 mg emtricitabine under direct observation, and 199 to receive no study drug. Short-course zidovudine and intrapartum nevirapine were offered to all HIV-infected women, according to the local standard of care. Women who met national criteria for antiretroviral therapy were referred for care and not enrolled. Our primary study outcome was resistance to non-nucleoside reverse transcriptase inhibitors at 6 weeks after delivery. We used standard population sequencing to determine HIV genotypes. Analysis was per protocol. This study is registered with ClinicalTrials.gov, number NCT00204308.

**Findings:** Of the 200 women who were randomly assigned to the intervention, 14 were lost to follow-up or withdrew from the study, two did not take study drug according to protocol, and one specimen was lost; 23 of 199 controls were lost to follow-up or withdrew from the study, and three specimens were lost. Women given the intervention were 53% less likely than controls to have a mutation that conferred resistance to non-nucleoside reverse transcriptase inhibitors at 6 weeks after delivery (20/173 [12%] vs. 41/166 [25%]; risk ratio [RR] 0.47, 95% CI 0.29-0.76). We noted postpartum anaemia, the most common serious adverse event in mothers, in four women in each group. 20 of 198 (10%) infants in the intervention group and 23 of 199 (12%) controls had a serious adverse event, mostly due to septicaemia (n=22) or pneumonia (n=8); these events did not differ between groups, and none were judged to be caused by the study intervention.

**Interpretation:** A single dose of tenofovir and emtricitabine at delivery reduced resistance to non-nucleoside reverse transcriptase inhibitors at 6 weeks after delivery by half; therefore this treatment should be considered as an adjuvant to intrapartum nevirapine.

### **Strategic objective 3: Prevent HIV transmission through blood and blood products**

No appropriate abstracts were submitted

### **Strategic objective 4: Prevent HIV transmission in health care and other care settings and promote access to post exposure prophylaxis treatment**

**62.**      **TITLE:** CHARACTERISTICS OF PATIENTS ENROLLED IN A COMMUNITY BASED HIV TREATMENT PROGRAM IN LUSAKA  
**Authors:** Zulu I. *et al*

<b>Year:</b>	2004
<b>Org/Inst:</b>	Center for HIV Information, University of California
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Background:** In May 2004, the Lusaka District HIV Care and Treatment Program started in four district health centres, with support from the Zambian government, the Center for Disease Control and Prevention, and the Elizabeth Glaser Paediatric AIDS Foundation.

**Description:** In the first four months of operation, a total of 2978 individuals have been enrolled into long-term HIV care, 40% male and 60% female. The median CD4 count of patients at their first visit was 134 cells/mm<sup>3</sup>, with 53% at 200 cells/mm<sup>3</sup> or lower. On initial history and physical exam, 17% were found to be WHO stage I, 22% at stage II, 50% at stage III, and 11% stage IV. The large proportion of patients in the stage III category is believed to be a result of the high TB prevalence regionally.

One thousand six hundred and fourteen enrolled patients (54%) were started on antiretroviral therapy (ART), in accordance with WHO guidelines. The proportions of males (42%) and females (58%) did not differ from the general clinic population. As expected, the median CD4 count for individuals starting ART was substantially lower when compared to the general clinic population (median = 103 cells/mm<sup>3</sup>; 79% under CD4 count 200 cells/mm<sup>3</sup>). Higher proportions of individuals also had clinical evidence of advanced disease (56% WHO stage 3; 14% WHO stage 4). One hundred and twenty-eight deaths (4% of all patients) were reported among program enrols at the end of four months of operation. The majority had already started ART (61%) and had a high baseline WHO stage (III or IV, 68%). The median CD4 count was also low (83 cells/mm<sup>3</sup>; 93 % under 200 cells/mm<sup>3</sup>).

**Conclusions:** The early success of the Lusaka District HIV Care and Treatment Program demonstrates that rapid scale-up of ART services is possible in the primary care setting. The numbers of individuals seeking care is only expected to increase, as services expand to all 24 district health centres by 2005. The large proportion of individuals starting HIV treatment early on is a reflection of the severe immunosuppression and advanced clinical disease prevalent within the HIV-infected population in the region.

63.	<b>TITLE:</b>	COLLEAGUES WITH HIV/AIDS: PERSPECTIVES FROM HEALTH WORKERS IN ZAMBIA
	<b>Authors:</b>	Kiragu K <sup>1</sup> , Ngulube T. J <sup>2</sup> and Nyumbu M <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	<sup>1</sup> Zambia Integrated Health Program, Lusaka, Zambia; <sup>2</sup> Population Council/Horizons, Nairobi, Kenya; <sup>3</sup> INESOR/University of Zambia, Lusaka, Zambia;
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	-
	<b>Source:</b>	Zambia Integrated Health Program, Lusaka, Zambia

**Background:** While little is known about the prevalence of HIV/AIDS among health workers, it is clear they are not immune from the disease. This means that many health workers have colleagues who are HIV+, and have to deal with the human challenges of working not only with HIV+ patients but also with HIV+ colleagues. This qualitative study explores how health workers in Zambia are dealing with workmates who have HIV/AIDS,

and is part of an operations research study to develop a provider-centered HIV/AIDS initiative.

**Methodology:** 30 FGDs were conducted in December 2003 among over 150 staff working in 5 large hospitals in Zambia. Interviews were conducted separately for men and women. The interviews involved all cadres of hospital workers including medical, paramedical, administration and support staff. This paper confines itself to the findings for the medical staff.

**Results:** Many health workers were familiar with colleagues who were HIV+, usually revealed privately between confidants, or from suspicious signs and symptoms. Respondents had mixed feelings regarding whether hospital management would be supportive of them if they were HIV+ themselves. Individual health workers said they were comfortable working with HIV+ colleagues, though they felt their co-workers were not always comfortable. Health workers also reported conflict regarding how to treat HIV+ colleagues, and feared being paternalistic. They also were uncertain on what to do with an HIV+ colleague who was self-stigmatising, as well as how to address colleagues who were unfair to their HIV+ counterparts.

**Conclusions:** These FGDs indicate that health workers need the same support systems employees in other sectors get. They could benefit from a workplace program to help them address the emotional issues associated with HIV/AIDS. In particular, they need programs to help them cope with stigma in the workplace, and how to relate with their HIV+ colleagues.

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64.	<b>TITLE:</b>	PREVENTING THE MEDICAL TRANSMISSION OF HIV IN ZAMBIA
	<b>Authors:</b>	Chemonics International Inc, JHPIEGO, Manoff Group
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Chemonics International Inc. JHPIEGO Manoff Group
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Ndola and Chipata
	<b>Source:</b>	Chemonics International Inc. JHPIEGO Manoff Group

**Methodology:** The Central Board of Health (CBOH) and the Prevention of Medical Transmission of HIV Program conducted a rapid assessment of injection safety practices in two districts in Zambia in late March 2004. The districts selected were Ndola, the provincial capitol for Copperbelt Province, and Chipata, the provincial capital for Eastern Province. Evaluation teams conducted provider observations and interviews, facility audits, and client interviews and community focus groups.

**This assessment focused on three main areas:** hospital and health centre incineration and waste disposal; necessary supplies and equipment (e.g., syringes, sharp boxes etc.); community and patient knowledge, attitudes and practices relevant to injection safety.

**Results:** Overall, the results from the injection provider observations (45), interviews with providers (48) and prescribers (28), facility audits (27), client exit interviews (30) and community focus groups (11) were consistent and the information gained from each of these different sources reinforced the overall findings of the assessment.

**Positive findings** included that only new, sterile injection equipment was used for injections in all the observations (100%), and this consisted primarily of single-use disposable syringes and needles with a few auto-disable syringes. Provider and prescriber interviews corroborated this evidence and reported that, in general, they did not rely on patients to bring their own syringes and had not experienced recent stock-outs. Sharps boxes were available and used for immediate disposal in the vast majority of cases (89%)

and 73%, respectively). Sharps boxes were burnt in 85% of cases, according to the facility audit, either in an incinerator (54%), a burning pit (19%), or an open burning area (12%).

**On the negative side**, injections were frequently not prepared properly, and in one district in particular there was a high rate of two-handed recapping of needles observed (this district also showed a higher percentage of providers reporting needle stick injuries). Sharp boxes were often made locally from available materials (cardboard boxes) and were frequently filled beyond  $\frac{3}{4}$  full. Where pre-fabricated sharps boxes existed, they were reportedly leftover stock from the last round of measles immunization campaign.

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65.	<b>TITLE:</b> <b>ADHERENCE TO UNIVERSAL PRECAUTIONS WITH REFERENCE TO HIV INFECTION AMONG MIDWIVES AND TRAINED TRADITIONAL BIRTH ATTENDANTS DURING HOME AND HEALTH CENTRE DELIVERIES IN SIAVONGA AND MAZABUKA DISTRICTS</b> <b>Authors:</b> Hamomba L <b>Year:</b> 2005 <b>Org/Inst:</b> The University of Zambia, School of Medicine <b>Status:</b> Published <b>Study Site(s):</b> Siavonga and Mazabuka <b>Source:</b> The University of Zambia, School of Medicine
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**The general objective** of the study was to determine if Universal Precautions were adhered to and the reason for non-adherence among midwives, nurses who perform deliveries in the health centres and trained traditional birth attendants who perform deliveries in homes. It was hypothesised that trained traditional birth attendants (TBAs) and midwives adhere to Universal Precautions (UPS) during deliveries performed at home and health centres.

**The study findings** revealed that the proportion of midwives and nurses adhering to Universal Precautions was 63.5%, while that of the trained traditional birth attendants was 67.2%. The most significant factors related to adherence for the midwives and nurses were the availability of medical supplies and the inclusion of UPS in their training. Respondents who were trained in UPS were 24.89 (95% CI 1.63, 380.59) times more likely to have adhered to UPS. Respondents who received weekly medical supplies were 11.86 (95% CI 2.10, 67.03) times more likely to adhere to UPS compared to respondents who received monthly supplies. Trained traditional birth attendants who had heard of Universal Precautions were 5.61 (95% CI 1.90, 16.55) times more likely to have adhered to Universal Precautions.

Focus Group Discussions conducted among midwives and nurses revealed that they had knowledge of the standard Universal Precautions (UPS) through their training, but could not apply that knowledge because of the unavailability of medial supplies. Focus Group Discussions conducted among trained birth attendants revealed that they have heard of Universal Precautions through their training, but they needed more knowledge through workshops, and, refresher courses. Adequate medical supplies and refresher courses would enhance adherence to Universal Precautions.

Observations of routine deliveries for the midwives and nurses showed that 63.9% adhered to Universal Precautions. This confirms the responses made through the use of the questionnaire.

**Strategic objective 5: *Improve access to and use of confidential counseling and testing***

<b>66.</b>	<b>TITLE:</b> <b>VOLUNTARY COUNSELLING AND TESTING (VCT) IS FEASIBLE AND DESIRABLE IN CORRECTIONAL SETTINGS</b>
<b>Authors:</b>	Pupwe O
<b>Year:</b>	2003
<b>Org/Inst:</b>	Copperbelt University, Kitwe, Zambia
<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. C10950
<b>Study Site(s):</b>	Kanfinsa State Prison, Kitwe
<b>Source:</b>	The XV International AIDS Conference: Abstract no. C10950

Voluntary Counselling and Testing (VCT), has been recognised as an effective method in the prevention and care of HIV /AIDS. In many prisons AIDS inflectional rates are higher than in the outside community. But few prisons provide adequate AIDS services.

**Objective:** Our project was designed to assess the feasibility and desirability of VCT in prisons. The project was conducted at Kamfinsa State Prison in Zambia and is part of an ongoing prisons project called IN BUT FREE (Simooya et al., Barcelona 2002).

The project is approved by the National AIDS Council and Ministry of Home Affairs and participation in the project was voluntary. The Kamfinsa Prison has about 1000 inmates (male and female). The project began in June 2003, with all the inmates having a chance to attend the general AIDS education sessions conducted to a class of 50 inmates at a time.

**Results:** Those interested in VCT where able to access it right there in the prisons. Pre and post-test counselling where conducted before and after every test respectively. All those who tested positive have been referred to the District Health Management Team for medication. Lastly 35 peer counsellors where trained to give support counselling to their fellow inmates at times when the professional counsellors where not available. It suffices to say that VCT continued way after the education and counsellor training ended. The education sessions where attended 100 % by the prison population and out of the 200 inmates tested 25% where found to be HIV positive. From these results we have found it very feasible and that it is desirable to the inmates to have VCT in prisons. Our recommendation is that it is time society realised that prison inmates are taken out of society and will very soon be poured back into society.

**Conclusion:** That being the case, there is a need to ensure that they are equally well equipped with issues concerning the HIV pandemic, justifying the need for VCT clinics to be set up in all prisons possible

<b>67.</b>	<b>TITLE:</b> <b>ADDING VCT TO SOLWEZI DIOCESE HOME BASED CARE INCREASES UPTAKE, NORTH-WESTERN PROVINCE, ZAMBIA</b>
<b>Authors:</b>	Zulu M G <sup>1</sup> , Lovick L B <sup>2</sup> and Banda G <sup>1</sup>
<b>Year:</b>	2003
<b>Org/Inst:</b>	<sup>1</sup> Solwezi Diocese, <sup>2</sup> Catholic Relief Services
<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. E11343
<b>Study Site(s):</b>	Solwezi and Lusaka
<b>Source:</b>	The XV International AIDS Conference: Abstract no. E11343

**Issue:** VCT is the only sure way of knowing the actual HIV infection rate in any given area. However, VCT uptake has been constrained by both stigma and lack of facilities in

Zambia's rural areas, North-western Province inclusive. The latest Zambia Demographic & Health Survey indicates that North-western has the lowest HIV rate in the country but minimal VCT services make it difficult to assess the situation as well as provide needed services. Solwezi Diocese Home Based Care (HBC) has added VCT to its programme to better ascertain infection levels and to enhance its care and support services.

**Description:** This paper will discuss the Solwezi Diocese HBC counselling component for PLWHA. It reaches the majority, and most rural areas of North-western Province of Zambia, through its structural network of diocese and parish coordinators, nurse care supporters, and community volunteer caregivers. Care and services include providing care and support through psychosocial counselling to HBC clients and their families during home visits. Programme staff undergo various levels of counselling training, appropriate to the caregiver level. Being a community programme, there are one to two trained counsellors in each operational site who are affiliated to the Psycho-social Council of Counsellors of Zambia. After HBC staff undertook further in-depth training for VCT counselling, there was notable uptake of VCT among HBC programme clients under symptomatic treatment who had never been tested.

**Lessons Learnt:** Established HBC clients in the Solwezi programme felt more comfortable undergoing VCT with familiar caregivers than going to a public facility.  
 -Undergoing VCT gave clients the further opportunity to join Positive Living Clubs.  
 -Contributing to knowing the local infection level will assist in planning for care and support services.

**Recommendation:** Where possible, augment HBC programmes with VCT.

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68.	<b>TITLE:</b>	<b>SEXUAL BEHAVIOR OF HIV DISCORDANT COUPLES AFTER HIV COUNSELING AND TESTING.</b>
	<b>Authors:</b>	Allen S, Meinzen-Derr J and Kautzman M <i>et al</i>
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	-
	<b>Status:</b>	Published in the Abstract Book for <i>AIDS 2003</i> Mar 28;17(5):733-740.
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Abstract Book for <i>AIDS</i> , 2003 Mar 28;17(5):733-740.

**Background and Objectives:** Sexual behaviour following voluntary HIV counselling and testing (VCT) is described in 963 cohabiting heterosexual couples with one HIV positive and one HIV negative partner ('discordant couples'). Biological markers were used to assess the validity of self-report.

**Methodology:** Couples were recruited from a same-day VCT centre in Lusaka, Zambia. Sexual exposures with and without condoms were recorded at 3-monthly intervals. Sperm detected on vaginal smears, pregnancy, and sexually transmitted diseases (STD) including HIV, gonorrhoea, syphilis, and Trichomonas vaginalis were assessed.

**Results:** Less than 3% of couples reported current condom use prior to VCT. In the year after VCT, > 80% of reported acts of intercourse in discordant couples included condom use. Reporting 100% condom use was associated with 39–70% reductions in biological markers; however most intervals with reported unprotected sex were negative for all biological markers. Under-reporting was common: 50% of sperm and 32% of pregnancies and HIV transmissions were detected when couples had reported always using condoms. Positive laboratory tests for STD and reported extramarital sex were relatively infrequent. DNA sequencing confirmed that 87% of new HIV infections were acquired from the spouse.

**Conclusions:** Joint VCT prompted sustained but imperfect condom use in HIV discordant couples. Biological markers were insensitive but provided evidence for a significant under-reporting of unprotected sex. Strategies that encourage truthful reporting of sexual behaviour and sensitive biological markers of exposure are urgently needed. The impact of prevention programs should be assessed with both behavioural and biological measures.

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69.	<b>TITLE:</b> <b>VOLUNTARY HIV COUNSELING AND TESTING (VCT): IS IT FEASIBLE IN SCHOOLS?</b> <b>Authors:</b> Banda S, Sakala S, Banda E <i>et al</i> <b>Year:</b> 2005 <b>Org/Inst:</b> Centre for Infectious Disease Research in Zambia, Ukani Support Group and Lusaka Health Management Team. <b>Status:</b> Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006 <b>Study Site(s):</b> <b>Source:</b> XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract WEPE0448.
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**Issues:** Despite expanding services for the prevention of mother-to-child HIV transmission, many children and adolescents in Zambia continue to be HIV-infected, often through horizontal transmission.

**Description:** An initiative to educate and offer VCT through community-based basic schools (grades 1-9) was created by Ukani Support Group, Centre for Infectious Disease Research in Zambia, and Lusaka Health Management Team. An intensive, 4-week curriculum was developed, with group sensitisation talks given weekly; each lasted approximately 2 hours. To increase student involvement, talks were scheduled during regular school hours. Messages covered general HIV education about the effect of HIV/AIDS on homes, challenges and risks faced by young people, stigma and discrimination, and VCT. To ensure that age-appropriate messages were offered, pupils were grouped according to age (10-13, 14-16, 17-18); parents were encouraged to attend, but were grouped separately in counselling sessions. All community educators were trained in paediatric and adolescent counselling. In the fourth week, VCT was offered to students. Those who were at least 16 years old were able to give their own consent; for children under age 16, parents were asked for permission to test for the child's HIV status. From Sept-2005 to Dec-2005, 2127 children from 19 community schools participated in this program. 1773 (83%) agreed to HIV testing. Overall, 86 (5%) tested HIV-positive and were immediately referred to long-term HIV care. Those who tested HIV-negative were given detailed post-test counselling, which focused on risk reduction, HIV transmission and behavioural preventive measures.

**Lessons learned:** Despite the legal and ethical considerations surrounding VCT for children and adolescents, when given the opportunity, uptake remains high.

**Recommendations:** Schools can provide valuable access to health programs, promote awareness on HIV/AIDS, and encourage testing. Policy makers need to ensure that school curriculums are revised in order to adequately address HIV/AIDS issues.

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70.	<b>TITLE:</b> <b>KEEP IT "A QUIET STORY" OR "EXPOSE THE TRUTH"? : UNDERSTANDING THE QUANDARIES FACING ZAMBIAN WOMEN WHEN DECIDING TO HAVE A HIV TEST AND/OR DISCLOSE THEIR STATUS TO OTHERS</b>
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**Authors:** Bond V.A<sup>1</sup>, Ginwalla R<sup>2</sup> and Chikwampu D<sup>3</sup> *et al*  
**Year:** 1999-2001  
**Org/Inst:** <sup>1</sup>London School of Hygiene and Tropical Medicine, Lusaka, Zambia; <sup>2</sup>University Teaching Hospital, Lusaka, Zambia;  
<sup>3</sup>Kara Counselling and Training Trust, Lusaka, Zambia;  
**Status:** Published in the 2002 XIV International AIDS Conference Abstract no. TuPeD4971  
**Study Site(s):** National  
**Source:** Abstract Book for the 2002 XIV International AIDS Conference Abstract no. TuPeD4971

**Background:** Despite the promotion of VCT and the increasingly availability of some other interventions for PLWHA, HIV infection in Zambia remains powerfully stigmatised and associated with social and physical death. In the face of this, people often opt for ignoring and/or hiding HIV and "safety" in secrecy. Even once the disease becomes explicit, many people continue to repress their HIV status. What are the particular dilemmas that face Zambian women when deciding to have a HIV test and/or disclose a HIV-positive test result?

**Methodology:** Qualitative research, using a range of methods, conducted within two rural and three urban research studies between 1999 and 2001 in Zambia, looked - in part - at both women's concerns about and perceptions of HIV testing, and, in three of the studies, women's actual experiences of having a HIV test and disclosing a HIV-positive result.

**Results:** Findings demonstrate that it is harder for women to decide to have a HIV test than men and reveal what the main incentives and disincentives are for women to undergo a HIV test. If found HIV-positive, women fear all kinds of recrimination from slander to violent acts. Keeping a HIV-positive result as "a quiet story" keeps stigma and discrimination at bay. However, for women, there are often advantages to disclosing their status within a limited network, especially as they fall sick, and increasingly they are choosing to do so.

**Conclusions:** Disclosure is at odds with the community norm to hide or ignore HIV, and the consequences of disclosure for women are, overall, more damaging than for men. HIV-positive women need to be provided with special, tangible and continued support to cope with particular problems they face. If this is available, the incentives for disclosing are greater. Counselling responsibilities need to be shared amongst health services, CBOs, families and churches. More longitudinal studies are needed on the actual consequences of disclosure for women.

71. **TITLE:** VOLUNTARY HIV COUNSELING AND TESTING (VCT): IS IT FEASIBLE IN SCHOOLS?  
**Authors:** Banda S<sup>1</sup>, Sakala S<sup>2</sup> and Banda E<sup>1</sup> *et al*  
**Year:** 2005  
**Org/Inst:** Ukani Support Group, Centre for Infectious Disease Research in Zambia, and Lusaka Health Management Team  
**Status:** Published in the Abstract Book of the AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0448  
**Study Site(s):** Lusaka  
**Source:** AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0448

**Issues:** Despite expanding services for the prevention of mother-to-child HIV transmission, many children and adolescents in Zambia continue to be HIV-infected, often through horizontal transmission.

**Description:** An initiative to educate and offer VCT through community-based basic schools (grades 1-9) was created by Ukani Support Group, Centre for Infectious Disease Research in Zambia, and Lusaka Health Management Team. An intensive, 4-week curriculum was developed, with group sensitisation talks given weekly; each lasted approximately 2 hours. To increase student involvement, talks were scheduled during regular school hours. Messages covered general HIV education about the effect of HIV/AIDS on homes, challenges and risks faced by young people, stigma and discrimination, and VCT. To ensure that age-appropriate messages were offered, pupils were grouped according to age (10-13, 14-16, 17-18); parents were encouraged to attend, but were grouped separately in counselling sessions. All community educators were trained in paediatric and adolescent counselling. In the fourth week, VCT was offered to students. Those who were at least 16 years old were able to give their own consent; for children under age 16, parents were asked for permission to test for the child HIV status. From Sept-2005 to Dec-2005, 2127 children from 19 community schools participated in this program. 1773 (83%) agreed to HIV testing. Overall, 86 (5%) tested HIV-positive and were immediately referred to long-term HIV care. Those who tested HIV-negative were given detailed post-test counselling, which focused on risk reduction, HIV transmission and behavioural preventive measures.

**Lessons learned:** Despite the legal and ethical considerations surrounding VCT for children and adolescents, when given the opportunity, uptake remains high.

**Recommendations:** Schools can provide valuable access to health programs, promote awareness on HIV/AIDS, and encourage testing. Policy makers need to ensure that school curriculums are revised in order to adequately address HIV/AIDS issues.

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72.	<b>TITLE:</b>	<b>IMPLEMENTING A COMMUNITY-BASED MODEL FOR THE PROMOTION OF COUPLES' VOLUNTARY COUNSELING &amp; TESTING IN TWO AFRICAN CAPITAL CITIES: SIMILARITIES, DIFFERENCES &amp; LESSONS LEARNED</b>
	<b>Authors:</b>	Beyer A, the Rwanda/Zambia HIV Research Group
	<b>Year:</b>	-
	<b>Org/Inst:</b>	Emory University, Rwanda Zambia HIV Research Group, Lusaka, Zambia
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. MoPeD3927
	<b>Study Site(s):</b>	Lusaka, Zambia and Kigali, Rwanda
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. MoPeD3927

**Background:** Greater than 60% of new HIV infections in Africa are acquired from a spouse or cohabiting partner. Yet, <1% of African couples utilize Couples' Voluntary HIV Counselling & Testing (CVCT) services. This study investigates the success of a CVCT promotion program in Lusaka, Zambia and Kigali, Rwanda- two African capitals with a high prevalence of HIV and different socio-cultural contexts.

**Methodology:** "Influence Network Agents" (INAs) were trained to invite couples for CVCT services during two 4-month pilots. In each city, training and recruitment of INAs was analogous. INAs were comparably remunerated according to the number of invitations

distributed for CVCT services and the number of couples who attended as a result of invitations.

**Results:** Over 16,500 invitations have been distributed (4,887 in Rwanda, 11,625 in Zambia). INAs in Rwanda have achieved two to three-fold higher response rates from invitations than INAs in Lusaka. Where the invitation was delivered, the nature of the relationship between INAs and the invitees, and the number of contacts between INAs and invitees differed between cities. During Phase II, 38% of invitations were given to neighbours or work colleagues in Kigali compared with 15% in Lusaka, while 14% of invitations in Lusaka were given to fellow church members, compared with <2% in Kigali.

**Conclusions:** Results suggest that differential outside effects such as the nature of social networks, demographic trends, and cultural perceptions of CVCT impact the effectiveness of promotional strategies. The high response rate in Kigali may indicate a greater general acceptance of and familiarity with VCT services as compared to Lusaka. In Lusaka, INAs cited stigma, cultural barriers and traditional beliefs as impediments to CVCT. Kigali is a smaller, less transient city than Lusaka, with one indigenous language compared to five in Lusaka. Sustainable CVCT promotional activities are dependent on the cohesion and make-up of social capital, both horizontal and vertical social networks, in particular country contexts

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73.	<b>TITLE:</b>	COMMON REASONS FOR ACCESSING VCT AMONG WOMEN AT CHIPATA CLINIC LUSAKA
	<b>Authors:</b>	Sibande M N, Mwale A M, Halumba V M <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Zambart
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. D10925
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. D10925

**Issues:** with the high poverty levels in Zambia coupled with unemployment and overcrowding in cities such as Lusaka, women are found to be socially the most vulnerable to HIV/AIDS other than their biological make up. Rural urban drift has led to mushrooming of unplanned settlements and Chipata compound is one such settlement with a population of 843 243 (Feb 2003).

**Description:** The Zambian ProTEST Project is a World Health Organisation (WHO) initiative designed to promote Voluntary Counselling and Testing (VCT) as an entry point to a continuum of care for People Living with HIV(PLWAS). its components are : providing care against opportunistic infections (OIs) and Sexually Transmitted Infections (STIs); Support such skills training to generate income; Prevention from Tuberculosis (TB) through Isoniazid Preventive Therapy (IPT) and Prevention of Mother to Child Transmission of HIV (PMTCT), Referral to home based care organisations, Hospice care and other Nutritional support initiatives; Free Consultation to the Doctor, Clinical Officer, Nurse, Counsellor for any problem; Decision Making - awareness of one's health thus able to decide if to have children or not, when to have them and what to do during pregnancy, plan for family like write Will or change of sexual behaviour by adopting safe sex through using condoms. The reasons for accessing this service were documented to determine why women came to the centre from Dec2002 to Dec2003.

Lessons learnt: Women came for various reasons common were: Death of spouse 56%; Poverty thus wanting to access free medication and support 35%; Ill health of self or spouse 12%; Death of babies 6%; Getting married 4%.

**Recommendations:** Government to adopt this system at national policy level -currently being considered, women empowerment programmes and sex education to be intensified. Involve more women from the grass route level in national planning and development of programmes.

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74.	<b>TITLE:</b> <b>COMMUNITY BASED PROMOTION OF COUPLES' VCT: COST EFFECTIVENESS OF PEER VERSUS INFLUENCE AGENT MODELS</b> <b>Authors:</b> Dunham S <sup>1</sup> , the Rwanda/Zambia HIV Research Group <sup>1-2-3</sup> <b>Year:</b> - <b>Org/Inst:</b> <sup>1</sup> Zambia-UAB HIV Research Project (ZUHRP), Lusaka, Zambia, <sup>2</sup> University of Alabama in Birmingham (UAB), AL, USA, <sup>3</sup> Project San Francisco (PSF), Kigali, Rwanda <b>Status:</b> Published in the 2nd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. 1196 <b>Study Site(s):</b> Rwanda and Zambia <b>Source:</b> The 2nd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. 1196
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**Background:** Over 60% of new HIV infections in Sub-Saharan Africa are acquired from a spouse. Previous studies conducted by PSF (Rwanda) and ZUHRP (Zambia) demonstrate that HIV/STD transmission rates among couples decreases by more than 50% when husbands and wives are HIV tested and counselled together. Cost effective promotion strategies for couples' voluntary counselling and testing (CVCT) have the potential to play a significant role in HIV/AIDS intervention programs.

**Methodology:** ZURHP is investigating two CVCT promotion strategies in Lusaka, Zambia and Kigali, Rwanda. One uses a peer model with full time salaried community workers (CWs) who promote CVCT door to door. The other involves the use of influential network agents (INAs)—select individuals who are leaders in their respective communities. The latter are remunerated according to the number of invitations they distribute for the couples' VCT service, and the number of couples who attend based on the invitation. Both CW and INA require training and ongoing monitoring and evaluation, with equivalent costs in both groups.

**Results:** Initial results indicate that the CWs cost between 1.5 and 2 times as much as INAs, depending on the number of couples that is set as the goal. The number of invitations distributed, and the proportion of invitations that result in couples attending the CVCT service, is similar for CW and INAs. The main difference is that INAs are employed in full time work and can distribute invitations in the course of their day-to-day contacts with married adults.

**Conclusions:** The use of INAs in CVCT promotion is a more cost effective recruiting strategy than the peer CW model. Additional research is needed to determine what INA characteristics, including the nature of the environment in which they invite, are more conducive to effective CVCT promotion.

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75.	<b>TITLE:</b> <b>STUDY TO DETERMINE WHY PEOPLE IN LUSAKA DISTRICT SHUN SERVICES OF HIV/AIDS VOLUNTARY</b>
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**COUNSELLING AND TESTING IN GOVERNMENT  
HEALTH INSTITUTIONS**

**Authors:** Mwape K  
**Year:** 2007  
**Org/Inst:** University of Zambia School of Medicine  
**Status:** Published in an Abstract Book, 4<sup>th</sup> National Health Research Conference  
**Study Site(s):** Lusaka  
**Source:** Abstract Book, 4<sup>th</sup> National Health Research Conference, January 18-19, 2007 Zambia

**Objectives:** To identify factors that contributing to the community shunning Voluntary Counselling and Testing in Lusaka Urban district in government health institutions, to identify factors that influence counsellors failure in the execution of the VCT programme, to determine knowledge and attitude of community on VCT and to establish adequacy of supervision on the performance of VCT

**Methodology:** The study was an exploratory, describing in depth the performance of VCT at each health centre in order to identify factors, which determine the poor and non-performance of VCT. Thus it was a multiple case study

**Results:** All the respondents have been trained as counsellors in HIV/AIDS; 50% of the respondents have the physical structure at their locality and can carry out full counselling that is counselling, testing and treatment; the counsellor respondents gave the figure of 83.3% has carrying out community program for VCT, but the community respondents attained 75% as not knowing or heard of community program in VCT in their locality; the community respondents of 76.6% said they have no knowledge that such services are offered at the local health centre. But when asked about what VCT is and HIV/AIDS, 100% know what VCT does and what HIV/AIDS is; the most outstanding is that of counselling during screening and followed by maternal and child health (MCH) screening; the distance, according to 56.6% does not affect their not visiting the centre despite hearing of it on the electronic media.

**Conclusion:** The project and its results offer favourable findings that support the integration of HIV prevention through VCT. The counsellors who responded are not only receptive to the idea but also recognise the importance of incorporating some community program to focus into their work with clients. To be effective in this effort, however, the counsellors need initial ongoing training that provides tools and skills necessary to pursue a client-centered approach to prevention. It is also important to note that successful prevention often requires the integration of additional services (e.g., drug treatment, testing, and counselling), so appropriate referral services must be available. Lastly, it is important that counsellors view their role in prevention screening as a support to on VCT to client rather than an enforcer of reduced risk behaviours. As long as the case managers adopt a client-centered approach in their work with clients and continue to help client's access services, the integration of HIV prevention screening into case management can be appropriate and successful.

Sponsors: Ministry of Health

**Strategic objective 6: Mitigate stigma and discrimination against HIV**

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| 76. | <b>TITLE:</b> | <b>IF A PREGNANT WOMAN IS SICK AND HAS A SICK, PREMATURE BABY WHICH DIES BEFORE THREE MONTHS, THEN WE KNOW SHE IS AFFECTED AND TURN AWAY FROM HER. THIS IS OUR TEST: MOTHER-</b> |
|-----|---------------|--|

**TO-CHILD TRANSMISSION AS THE CORE NARRATIVE  
OF HIV/AIDS IN RURAL ZAMBIA**

**Authors:** Bond V. A<sup>1</sup>, Ndubani E<sup>2</sup>  
**Year:** 2000-2001  
**Org/Inst:** <sup>1</sup>London School of Hygiene and Tropical Medicine, Lusaka, Zambia; <sup>2</sup>University of Zambia, Lusaka, Zambia  
**Status:** Published in 2002 XIV International AIDS Conference Abstract no. F11964  
**Study Site(s):** Selected rural areas of Zambia  
**Source:** Abstract Book for the 2002 XIV International AIDS Conference Abstract no. F11964

**Description:** During fieldwork in September 2001, respondents talked repeatedly about how visible HIV/AIDS had become in their community because of pregnant women falling sick and their babies dying. There was little sympathy or respect expressed for pregnant women suspected to be HIV-positive who were open to blame, ridicule and rejection. Traditional Birth Attendants related stories of assisting deliveries, often without gloves, of "girls" whose "birth canals were eaten up and open", and harshly treated by the community and health workers. This new focus on pregnant women with HIV arises from: the existence of pilot MTCT interventions in Zambia including one at the nearest mission hospital which started in October 2000; observations are based on reality witnessing the deaths of many young local women who had previously worked on the large commercial farm or at the border post; and, this apocalyptic image, reflects how HIV/AIDS is severing the reproductive cycle and the nuclear family unit.

**Issues:** The core narrative of HIV infection in a rural area in Zambia, where the first author has done anthropological fieldwork intermittently since 1991, has within the last year become an image of a sick, pregnant woman, with a past history of sex work and/or trading centres, whose baby dies soon after birth, followed by the death of its mother and father.

**Lessons learnt:** As HIV/AIDS deaths soar in Zambia, the community needs up-to-date information, continued support and access to tangible care options to manage this stage of the epidemic. Without the latter, blame is easily assigned to vulnerable groups such as pregnant women.

**Recommendations:** Education about MTCT should be extended beyond pilot sites in Zambia. The negative impact of such HIV/AIDS-related stigma needs to be openly discussed and tackled within the community concerned by a broad group of opinion leaders. TBAs need to be provided with protective gloves, information and support.

77.      **TITLE:** **THE EXTENT OF DISCRIMINATION AND STIGMATIZATION OF PEOPLE LIVING WITH HIV/AIDS IN RURAL SOCIETY.**
- Authors:** Chirwa M, Kapungu K. and Mwansa G.  
**Year:** 2006  
**Org/Inst:** The University of Zambia  
**Status:** Published in and Abstract Book, 4<sup>th</sup> National Health Research Conference, January 18-19, 2007, Zambia.  
**Study Site(s):** Sinazongwe  
**Source:** Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** The General objective was to establish the extent of the problem of stigma and discrimination of people living with HIV/AIDS, especially in rural areas.

**Methodology:** The population from which the sample was drawn consisted of people of Mailima in Sinazongwe District. The sampling frame consisted of 15,083 people. The sample was made up of 100 people. This was to facilitate generalization of the results after analysing them. Stratified Random Sampling was used because it ensures representation of both females and males from the sampled population. Self administered questionnaires were used. This method was preferred because it is economical in terms of time, and the data collected was quantitative. Since the data collected was in quantitative form, it was analysed using a computer package known as Statistical Package for Social Sciences (SPSS).

**Results:** The research discovered that people living with HIV/AIDS were often seen as shameful. The infection is also associated with the minority groups or behaviours. The infection was also linked to perversion and that those infected will be punished. It was also seen as a personal irresponsibility.

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<b>78. TITLE:</b>	<b>HIV/AIDS-RELATED STIGMA AND DISCRIMINATION: IMPLICATIONS FOR THE DESIGN AND IMPLEMENTATION OF COMMUNITY-BASED PREVENTION, CARE AND SUPPORT PROGRAMMES</b>
<b>Authors:</b>	Murray L <sup>1</sup> , Chege J.N. <sup>2</sup> , Greyling C. <sup>3</sup>
<b>Year:</b>	2002
<b>Org/Inst:</b>	World Vision
<b>Status:</b>	Published
<b>Study Site(s):</b>	Zambia and Uganda
<b>Source:</b>	World Vision

**Background:** Despite a growing recognition of HIV and AIDS-related stigma as an impediment to efforts to reduce impact of AIDS, there is little data to inform HIV and AIDS programming. World Vision is implementing a study to assess the impact of the three HIV and AIDS programming models the agency has piloted in Africa and to inform programme implementation.

**Methodology:** This operations research study, implemented in two programmes in Zambia and Uganda, is based on a cluster randomised control group design. Both qualitative and quantitative data are collected from eligible household members and community stakeholders. This paper is based on bivariate and multivariate analysis of baseline survey data on HIV and AIDS stigma and discrimination.

**Results:** The study identified social and religious values and norms that drive the high HIV and AIDS stigma and OVC discrimination observed in the Program areas. Out of the 8 questions used to assess stigma, less than 3% of the respondents did not express any stigma attitude. Children (10-17 years) had significantly higher scores in mean stigma attitudes, misconceptions and lower HIV and AIDS knowledge scores than the adult household members and the FBO/NGO/CBO leaders. There were significant gender and education level differences in HIV and AIDS knowledge, misconceptions and stigma but no significant difference between orphan and non-orphan children. Multivariate analysis indicates that respondents with higher HIV and AIDS knowledge and those with above primary levels of education were significantly more likely to express lower levels of HIV and AIDS related stigma.

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**Conclusions:** Programmes designed to address HIV and AIDS stigma and OVC discrimination will require not only individual focused strategies to increase HIV and AIDS knowledge and reduce misconceptions, but also community-based collective action strategies to address societal and religious values and norms that contribute to HIV and AIDS stigma and discrimination.

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79.	<b>TITLE:</b>	<b>USE OF DRAMA GROUPS FOR HIV/AIDS COMMUNITY SENSITIZATION</b>
	<b>Authors:</b>	Chirwa S, Spadoni S, Makuka I, <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1119
	<b>Study Site(s):</b>	Densely populated areas of Lusaka
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1119

**Background:** Despite recent efforts, the adult prevalence of HIV in Zambia continues to be unacceptably high (16%). Drama appears to be an effective tool for community sensitisation and education in this low literacy population. By carefully choosing time, venue and content of performances, population segments can be targeted and specific messages conveyed effectively.

**Description:** In 2001, we began using drama sensitisation to raise HIV/AIDS awareness in densely populated areas. The program began with one drama group (comprising 8 members) performing 5 times weekly to various communities. Based on the success of these skits, we recently expanded to 3 groups. 60 performances are scheduled each month in the communities surrounding health clinics. Performances cover various HIV-related topics including: stigma and discrimination, adherence to medication, myths and misconceptions, voluntary HIV counselling and testing, and availability of free antiretroviral therapy. Skits are written by a central coordinating team and the drama groups. The only equipment needed is drums. Some performances are scheduled in high-traffic areas such as marketplaces and bus stations; others target specific community groups gathered at churches, schools, funerals, or near bars. Loud drums and vibrant dancers lead into the educational skit, which typically lasts 30 minutes. Afterwards, peer educators and community outreach workers help facilitate post-performance group discussions and answer audience questions regarding HIV/AIDS. On average, 7,000 people view performances each month. Continued challenges include: attracting and retaining audiences, combating myths and misconceptions, and encouraging viewers to spread the messages to others.

**Lessons learned:** Drama sensitisation clearly helps disseminate important HIV/AIDS education messages to a low-literacy population.

**Recommendations:** To increase the effectiveness of drama skits for community sensitisation, appropriate venues should be explored to better reach target audiences. Themes must also be regularly updated to address relevant public health issues.

**Strategic objective 7: Prevent HIV transmission through intravenous drug use**

No appropriate abstracts were submitted

***Strategic objective 8: Support development and participation in HIV vaccine clinical trials***

- 80. TITLE:** **BELIEFS REGARDING HIV/AIDS RESEARCH PARTICIPATION IN LUSAKA, ZAMBIA**
- Authors:** Zachary D<sup>1</sup>, Mweemba A.<sup>1</sup> and Helova A.<sup>2</sup> *et al*
- Year:** 2004
- Org/Inst:** -
- Status:** Published in the 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe11.9C07
- Study Site(s):** Kanyama, Mtendere and Matero Townships
- Source:** The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe11.9C07

**Methodology:** One on one in-depth interview conducted with thirty three adults in three clinics (Kanyama, Mtendere and Matero Ref) in December 2004. Interviewees are active members in their respective communities as community health workers, nutritionists, advocates, teachers, healers and leaders.

**Objective:** To investigate cultural beliefs and decision-making for research participation in HIV/AIDS clinical trials.

**Results:** Mistrust of doctors and research scientist is cited consistently as a barrier for research participation by community members. Many participants described community fears about the drawing of blood for medical purposes. Many people in the community interpret this act and the person drawing the blood as satanic. Another barrier cited for people seeking clinical care from the Kanyama clinic is that the clinic is understaffed and physically too small. They cited standing in long cues and waiting for over 4 hours to see a clinical officer as examples. Despite these concerns all participants agreed that HIV/AIDS research is important and more education in the community was necessary in order to inform the community of the benefits of research in the community.

**Conclusions:** Community members in this study described a widespread belief of Satanism as a prominent barrier to participation in clinical research. Interviewees cited lack of knowledge and education in the community as obstacles to clinical care. Understanding cultural beliefs within the community may prove to be a significant factor in improving participation in community clinics and HIV/AIDS clinical trials in Lusaka, Zambia.

## **3.2 THEME II. EXPANDING TREATMENT, CARE AND SUPPORT FOR PEOPLE AFFECTED BY HIV AND AIDS**

The overall objective under the theme of **Expanding Treatment, Care and Support for People affected by HIV and AIDS** is to expand access to appropriate care, support and treatment for people living with HIV and AIDS, their caregivers and their families including services for TB, STIs and other opportunistic infections. The following are the strategic objectives under this theme:

- i. Provide universal access to ART including access to CCT at all treatment centers
- ii. Expand treatment for tuberculosis sexually transmitted infections (STIs) and other opportunistic infections (OIs)
- iii. Strengthen home or community based care and support including access comprehensive palliative care and pain management
- iv. Support the utilization of alternative and/or traditional medicine which have scientifically demonstrated efficacy
- v. Promote appropriate nutrition and positive living for PLHAs

This section consists of abstracts that addresss the forgoing strategic objectives.

### ***Strategic objective 9: Provide universal access to ART including access to CCT at all treatment centers***

<b>81. TITLE:</b>	<b>COUNTRY EXPERIENCES OF INTEGRATION OF PAEDIATRIC HIV CARE WITHIN CHILD HEALTH PROGRAMMES</b>
<b>Authors:</b>	Muhe L <sup>1</sup> , Mason E <sup>2</sup> , Martines J <sup>2</sup> <i>et al</i>
<b>Year:</b>	2006
<b>Org/Inst:</b>	-
<b>Status:</b>	Published; AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0949
<b>Study Site(s):</b>	Ethiopia and Zambia
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0949

**Issues:** Paediatric HIV infection is a preventable disease. However, it still contributes to 17 percent of total HIV/AIDS deaths (UNAIDS, 2005). To date few children living with HIV/AIDS have access to antiretroviral therapy (ART). More than 50% of children with HIV/AIDS die before the age of 2 years as a result of opportunistic infections and inter-

current common diseases such as pneumonia, diarrhoea, and malnutrition. This work integrates care and treatment of HIV-infected children into child health programmes such as the Integrated Management of Childhood Illness (IMCI).

**Description:** The IMCI guidelines have been adopted in more than 100 countries. IMCI has been demonstrated to improve health worker skills, and increase utilization of health services. As the HIV-infected child usually presents with inter current illnesses, Integration of HIV care into IMCI is appropriate. WHO thus developed guidelines and training materials on HIV/AIDS integrated to IMCI for first level health workers and referral care at district level. The materials enable health workers to identify children with HIV early and provide prevention of opportunistic infections and care and treatment of symptomatic children. The materials have been field-tested in Ethiopia and Zambia. An early experience of their use in several African countries will be presented.

**Lessons learned:** The experience shows that it is feasible to fully integrate paediatric HIV care into child health programmes. Health workers were able to use the materials to identify and manage children with HIV. Adopting a policy of task shift to empower lower level health care workers to provide prevention, care and treatment is an important step to rapidly scale up paediatric HIV care.

**Recommendations:** Simplified guidelines and training materials should be made available to health workers at peripheral facilities to contribute to universal access to ART.

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<b>82.</b>	<b>TITLE:</b>	RAPID SCALE-UP OF HIV CARE AND TREATMENT WITHIN THE LUSAKA PUBLIC HEALTH SECTOR.
<b>Authors:</b>	Sinkala M <sup>1,2,3</sup> , Kankasa C <sup>4</sup> , DeGroot A <sup>2</sup> <i>et al</i>	
<b>Year:</b>	2001	
<b>Org/Inst:</b>	<sup>1</sup> Lusaka Urban District Health Management Team, <sup>2</sup> Centre for Infectious Disease Research in Zambia, <sup>3</sup> University of Alabama at Birmingham, <sup>4</sup> University Teaching Hospital, Department of Paediatrics	
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference	
<b>Study Site(s):</b>	Lusaka	
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia	

**Background:** Lusaka is home to a large nevirapine (NVP)-based program for prevention of mother-to-child HIV transmission (PMTCT). Surveillance of infant cord blood at delivery can assess program effectiveness by determining the proportion of HIV-infected pregnant women and HIV-exposed infants in the population that ingest NVP.

**Methods:** We collected anonymous cord blood specimens from public sector deliveries in Lusaka. Specimens were tested for HIV antibodies and, if positive, for NVP. Results were linked to maternal HIV testing history in antenatal care (ANC) and whether the infant received NVP.

**Findings:** From 10,384 women who gave birth to live infants during the surveillance period, we obtained 10,194 (98%) specimens, of which 8787 (86%) belonged to mothers who had received ANC at a facility that offered PMTCT services. 2257 (26%) women were HIV seropositive on cord blood testing. Of the 8787 women in the surveillance population, 7204 (82%) had been offered HIV testing in ANC, of which 5149 (71%) had accepted, and of which 5129 (99%) had received a result. There were 1246 cord blood seropositive women who received a test result in ANC. Of these 1112 (89%) received a *positive* result (the other 134 comprise mostly seroconverters and ANC clerical errors).

Only 751 of 1112 (68%) women who were given a positive test result in antenatal care and a NVP tablet to take home for ingestion at labour onset had NVP detected in the cord blood (i.e., maternal non-adherence was 32%). 675 infants of the 751 adherent mothers (90%) received NVP prior to discharge from the delivery centre. Overall, only 675 of 2257 (30%) HIV-seropositive mother-infant pairs in the surveillance population received both a maternal and infant dose of NVP.

**Interpretation:** Successful PMTCT requires each mother-infant pair to negotiate a specific sequence of events that begins with offering HIV testing and continues through adherence to the prescribed regimen. This novel surveillance demonstrates that failures at each step can and do occur, resulting in reduced coverage and diminished program effectiveness.

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83.	<b>TITLE:</b> <b>THE ROLE OF HIV/AIDS SUPPORT GROUPS IN FIGHTING STIGMA AND PROMOTING ACCESS TO TREATMENT</b> <b>Authors:</b> Muchindu W. <b>Year:</b> 2004 <b>Org/Inst:</b> The University of Zambia <b>Status:</b> Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0926 <b>Study Site(s):</b> Lusaka <b>Source:</b> AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0926
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**Issues:** Although the provision of Anti Retroviral Therapy (ART) is increasingly becoming available to people living with HIV/AIDS in developing countries through the Global Fund and PEPFAR, most people are not accessing the therapy as a result of HIV/AIDS related stigma and fear of social exclusion and discrimination. For some patients who access treatment, adherence is affected for fear of stigma and discrimination.

**Description:** In one health centre in Zambia where free ART is provided, a support group of 10 people living with HIV/AIDS who have success stories to share on treatment was formed in 1994 to sensitise patients frequenting the Voluntary Counselling and Testing (VCT) clinic on the importance of ART and adherence. Using themselves as role models, the support group members do not only restrict their sensitisation campaigns at the health centre but they extend their support to communities. The health centre refers patients showing history of poor adherence for fear of stigma and discrimination to the support group. The support group members in turn counsel the patients and they visit patients who are willing to be visited at their homes to provide solidarity and treatment support and to break stigma.

**Lessons learned:** From every 10 patients who visit the VCT clinic daily and are exposed to the sensitisation campaigns by the support group, at least half elect to enrol in the HIV clinic for ART and over 1,000 patients who have been referred from the clinic to the support group for adherence support have gone back to good adherence of over 95%.

**Recommendations:** The support group has planned to sensitise and mobilize people living with HIV/AIDS in other clinics offering free ART to form support groups and provide similar services. The support group has also planned to integrate counselling trainings for members in their program.

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84.	<b>TITLE:</b> <b>COMMUNITY-BASED FOLLOW-UP FOR LATE PATIENTS ENROLLED IN A DISTRICT-WIDE PROGRAM</b>
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**FOR ANTIRETROVIRAL THERAPY IN LUSAKA,  
ZAMBIA**

**Authors:** Krebs D.W, Chi B, Mulenga Y *et al*  
**Year:** 2005  
**Org/Inst:** Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Alabama at Birmingham, Project Concern International  
**Status:** Published as manuscript in *AIDS Care* 2008  
**Study Site(s):** Lusaka  
**Source:** *AIDS Care* 2008; 20: 311-17.

Timely adherence to clinical and pharmacy appointments is well correlated with favourable patient outcomes among HIV-infected individuals on antiretroviral therapy. To date, however, there is little work exploring reasons behind missed visits or evaluating programmatic strategies to recall patients.

**Objective:** For this study, we implemented community-based follow-up of late patients as part of a large-scale programme for HIV care and treatment in Lusaka, Zambia. Through a network of local home-based care organizations, we attempted home visits to recall patients using locator information provided at time of enrolment. Between May and September 2005, home-based caregivers were dispatched to trace 1,343 patients with missed appointments.

**Results:** Of these, 554 (41%) were untraceable because the provided address was invalid, the patient had moved or no one was at the home. Of the remaining 789, 359 (46%) were reported to have died. Only 430 (54% of those traced, 32% overall) were contacted directly and encouraged to return for care. The likelihood of patient return was higher among traced patients in crude analysis (relative risk [RR] = 2.5; 95%CI = 1.9-3.2) and in multivariable analysis controlling for baseline body mass index, sex and CD4 + count </= 50/microL (adjusted RR = 2.3; 95%CI = 1.7-3.2). However, the process was inefficient: one late patient returned for every 18 home visits that were made. Reasons for missed visits were provided in 271 of 430 (63%) of the patients who were successfully traced. Common reasons included feeling too sick to come to the clinic, travelling away from home and being too busy.

**Conclusion:** Despite the availability of free ART in Lusaka, patients face significant barriers to attending scheduled clinical visits. Cost-effective and feasible strategies are urgently needed to improve timely patient follow-up.

**85. TITLE:** **CLINICAL OUTCOMES AND CD4 CELL RESPONSE IN CHILDREN RECEIVING ANTIRETROVIRAL THERAPY AT PRIMARY HEALTH CARE FACILITIES IN ZAMBIA**

**Authors:** Carolyn B. M, Mwangelwa M. M, Ronald A. C. *et al*  
**Year:** 2007  
**Org/Inst:** Centre for Infectious Disease Research in Zambia, Schools of Medicine and Public Health, University of Alabama at Birmingham, University Teaching Hospital, Lusaka, Zambian Ministry of Health  
**Status:** Published by JAMA. 2007;298:1888-1899.  
**Study Site(s):** Lusaka  
**Source:** JAMA. 2007;298:1888-1899.

**Context** The Zambian Ministry of Health provides paediatric antiretroviral therapy (ART) at primary care clinics in Lusaka, where, despite scale-up of perinatal prevention efforts, many children are already infected with the human immunodeficiency virus (HIV).

**Objective** To report early clinical and immunological outcomes of children enrolled in the paediatric treatment program.

**Design, Setting, and Patients** Open cohort assessment using routinely collected clinical and outcome data from an electronic medical record system in use at 18 government primary health facilities in Lusaka, Zambia. Care was provided primarily by nurses and clinical officers ("physician extenders" akin to physician assistants in the United States). Patients were children (<16 years of age) presenting for HIV care between May 1, 2004, and June 29, 2007.

**Intervention** Three-drug ART (zidovudine or stavudine plus lamivudine plus nevirapine or efavirenz) for children who met national treatment criteria.

**Main Outcome Measures:** Survival, weight gain, CD4 cell count, and haemoglobin response.

**Results:** After enrolment of 4975 children into HIV care, 2938 (59.1%) started ART. Of those initiating ART, the median age was 81 months (interquartile range, 36-125), 1531 (52.1%) were female, and 2087 (72.4%) with World Health Organization stage information were in stage III or IV. At the time of analysis, 158 children (5.4%) had withdrawn from care and 382 (13.0%) were at least 30 days late for follow-up. Of the remaining 2398 children receiving ART, 198 (8.3%) died over 3018 child-years of follow-up (mortality rate, 6.6 deaths per 100 child-years; 95% confidence interval [CI], 5.7-7.5); of these deaths, 112 (56.6%) occurred within 90 days of therapy initiation (early mortality rate, 17.4/100 child-years; post-90-day mortality rate, 2.9/100 child-years). Mortality was associated with CD4 cell depletion, lower weight-for-age, younger age, and anaemia in multivariate analysis. The mean CD4 cell percentage at ART initiation among the 1561 children who had at least 1 repeat measurement was 12.9% (95% CI, 12.5%-13.3%) and increased to 23.7% (95% CI, 23.1%-24.3%) at 6 months, 27.0% (95% CI, 26.3%-27.6%) at 12 months, 28.0% (95% CI, 27.2%-28.8%) at 18 months, and 28.4% (95% CI, 27.4%-29.4%) at 24 months.

**Conclusions** Care provided by clinicians such as nurses and clinical officers can result in good outcomes for HIV-infected children in primary health care settings in sub-Saharan Africa. Mortality during the first 90 days of therapy is high, pointing to a need for earlier intervention.

86.	<b>TITLE:</b>	<b>IMPROVING ADHERENCE TO ART IN RESOURCE CONSTRAINED SETTING: THE ROLE OF ADHERENCE SUPPORT WORKERS</b>
	<b>Authors:</b>	K. Torpey <sup>1</sup> , C. Thompson <sup>1</sup> and L. Stuart <sup>2</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	Zambia Prevention Care and Treatment Partnership (ZPCT)
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. TUPE0133
	<b>Study Site(s):</b>	National
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. TUPE0133

**Issues:** antiretroviral drugs are increasingly available in resource poor settings as a result of the U.S. President's Emergency Plan for AIDS Relief and WHO's 3x5 Initiative. Excellent adherence is the cornerstone of successful therapy. However with rapid scale up of ART

programs, provision of quality adherence counselling remains a challenge due to acute shortages of staff in the health sector. To ensure success of therapy and prevent development of resistance, interventions improving adherence are critical.

**Description:** The Zambia Prevention Care and Treatment Partnership (ZPCT) funded by USAID through the U.S. President's Emergency Plan is working with the Government of Zambia to increase access to HIV counselling and testing, PMTCT, clinical care and ART in five provinces. A baseline assessment of current and planned ART sites showed an acute shortage of health care workers to deliver adherence counselling, with the situation more severe in rural areas. To address this issue, a ten day curriculum was developed to train ART Adherence Support Workers. The support workers are PLWHAs, community volunteers and TB treatment supporters. The role of the support workers is to provide adherence counselling services in the health facilities, thereby freeing clinical staff for other duties, and provide adherence follow-up including home visit. The adherence support workers are deployed at facilities providing ART under the supervision of health care workers trained in adherence counselling. The adherence workers are given a modest stipend for lunch and transport reimbursement.

**Lessons learned:** Adherence Support Workers are making a significant contribution in addressing inadequate staffing and providing adherence counselling to PLWHAs leading to improved adherence to therapy.

**Recommendations:** There is the need to expand the deployment of adequately trained non-health workers to assist the understaffed health facilities to offer adherence counselling, CT and PMTCT to complement efforts of health care workers.

87.	<b>TITLE:</b>	<b>SPECIMEN REFERRAL SYSTEM: QUALITY LABORATORY SERVICES FOR ART DELIVERY AT ALL LEVELS OF CARE</b>
	<b>Authors:</b>	K. Torpey <sup>1</sup> , F. Mwale <sup>2</sup> and L. Stuart <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	Zambia Prevention Care and Treatment Partnership (ZPCT)
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. THPE0203
	<b>Study Site(s):</b>	ZPCT supported sites in Zambia
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. THPE0203

**Issues:** Laboratory investigations are requisite for high quality ART services. However the high cost of lab equipment, lack of trained personnel and inadequate infrastructure in some district hospitals and health centres in Zambia has led to use of clinical parameters and cheaper but less accurate surrogate laboratory markers for ART initiation and monitoring. This adversely impacts the quality of care for ART patients.

**Description:** In existing and planned ART sites supported by the Zambia Prevention Care and Treatment Partnership (ZPCT) with funding from USAID through the U.S. President's Emergency Plan for AIDS Relief, and in collaboration with the Government of Zambia, a laboratory capacity assessment was conducted covering space, equipment and reagent availability, human resource capacity, transport availability and road networks. Based on assessment findings, laboratory refurbishment, staff training and mapping of equipment were completed. A specimen referral strategy was designed, and haematology, chemistry and CD4 machines were procured and placed strategically throughout the districts to allow for access to all ART sites. Motorcycles were also procured to transport specimens between facilities. Outlying facilities providing ART and PMTCT services have specific clinic days

to draw blood for essential laboratory tests, and specimens are transported via motorcycles to hospitals with the laboratory equipment. The test results are sent back to the centres for patient management.

**Lessons learned:** Essential laboratory results, including CD4 enumeration, can be available without requisite laboratory equipment and personnel through a referral system. This optimises the use of expensive laboratory equipment like CD4 machines. The specimen referral system can assist with other needs for laboratory tests such as TB investigations

**Recommendations:** To optimise resources in the purchase and use of laboratory equipment, especially CD4 machines, a specimen referral system can be employed to provide quality laboratory service at all ART sites.

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88.	<b>TITLE:</b>	<b>HIV/AIDS CARE AND SUPPORT IN ZAMBIA: AN ASSESSMENT OF HEALTH FACILITIES IN FOUR DISTRICTS.</b>
	<b>Authors:</b>	Allen W.J, Bhatt G.J, and Mwinga A, <i>et al</i>
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	University Teaching Hospital, Lusaka
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Lusaka, Mongu, Ndola, and Lundazi
	<b>Source:</b>	University Teaching Hospital, Lusaka

This paper presents the findings of an assessment of HIV/AIDS care and support in Zambia conducted between January and March 2002. The study was carried out in Lusaka, Mongu, Ndola, and Lundazi.

**The objectives** of the assessment were to identify district-level opportunities and challenges in HIV comprehensive care and support; review care and support standards; and design a district-based HIV comprehensive care and support package that would improve the quality of life of people living with HIV/AIDS.

**Methodology:** The study applied quantitative and qualitative methods. Data was collected through a survey of 545 health care workers in 58 health care facilities. Eight types of health facilities were included in the assessment. These included: 1) referral hospitals, 2) general/district hospitals, 3) mission hospitals, 4) urban hospitals, 5) rural health centres, 6) private clinics, 7) hospices, and 8) voluntary counselling and testing facilities.

Focus group discussions and in-depth interviews were also conducted with PLHA; and members of district health management teams. Each district had sites with facilities that provided one or more HIV/AIDS care and support services. A sample of these sites were selected and included in the assessment.

**Results:** The results of the assessment suggest critical gaps in the provision of care and support across all facilities. For example, the proportion (10%) of respondents who provided PMTCT in the facilities included in the survey was quite low. Also only 6% of respondents were ART management. One in five health care workers reported offering counselling services to patients with HIV/AIDS, with the majority providing counselling after their regular working hours.

**Conclusion:** The results of the survey suggest the need for expanding care and support in the facilities. The low proportion of respondents providing care in key areas such as PMTCT, and ART suggests that there is a major gap at the facility level that needs to be addressed with appropriate strategies.

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89.	<b>TITLE:</b>	<b>RAPID SCALE-UP OF ANTIRETROVIRAL THERAPY AT PRIMARY CARE SITES IN ZAMBIA</b>
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**Authors:** Stringer J. S. A, Stringer E. M, Reid *et al*  
**Year:** 2004-2005  
**Org/Inst:** Schools of Medicine and Public Health, University of Alabama at Birmingham, Birmingham Centre for Infectious Disease Research in Zambia, Lusaka  
**Status:** Published in *JAMA*. 2006;296:782-793.  
**Study Site(s):** National  
**Source:** *JAMA*. 2006;296:782-793.

**Context:** The Zambian Ministry of Health has scaled-up human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) care and treatment services at primary care clinics in Lusaka, using predominately non-physician clinicians.

**Objective:** To report on the feasibility and early outcomes of the program.

**Design, Setting, and Patients:** Open cohort evaluation of antiretroviral-naïve adults treated at 18 primary care facilities between April 26, 2004, and November 5, 2005. Data were entered in real time into an electronic patient tracking system. Intervention: Those meeting criteria for antiretroviral therapy (ART) received drugs according to Zambian national guidelines.

Main Outcome Measures Survival, regimen failure rates, and CD4 cell response.

**Results:** We enrolled 21 755 adults into HIV care, and 16 198 (75%) started ART. Among those starting ART, 9864 (61%) were women. Of 15 866 patients with documented World Health Organization (WHO) staging, 11 573 (73%) were stage III or IV, and the mean (SD) entry CD4 cell count among the 15 336 patients with a baseline result was 143/ $\mu$ L (123/ $\mu$ L). Of 1142 patients receiving ART who died, 1120 had a reliable date of death. Of these patients, 792 (71%) died within 90 days of starting therapy (early mortality rate: 26 per 100 patient-years), and 328 (29%) died after 90 days (post-90-day mortality rate: 5.0 per 100 patient-years). In multivariable analysis, mortality was strongly associated with CD4 cell count between 50/ $\mu$ L and 199/ $\mu$ L (adjusted hazard ratio [AHR], 1.4; 95% confidence interval [CI], 1.0-2.0), CD4 cell count less than 50/ $\mu$ L (AHR, 2.2; 95% CI, 1.5-3.1), WHO stage III disease (AHR, 1.8; 95% CI, 1.3-2.4), WHO stage IV disease (AHR, 2.9; 95% CI, 2.0-4.3), low body mass index (<16; AHR, 2.4; 95% CI, 1.8-3.2), severe anaemia (<8.0 g/dL; AHR, 3.1; 95% CI, 2.3-4.0), and poor adherence to therapy (AHR, 2.9; 95% CI, 2.2-3.9). Of 11 714 patients at risk, 861 failed therapy by clinical criteria (rate, 13 per 100 patient-years). The mean (SD) CD4 cell count increase was 175/ $\mu$ L (174/ $\mu$ L) in 1361 of 1519 patients (90%) receiving treatment long enough to have a 12-month repeat.

**Conclusion:** Massive scale-up of HIV and AIDS treatment services with good clinical outcomes is feasible in primary care settings in sub-Saharan Africa. Most mortality occurs early, suggesting that earlier diagnosis and treatment may improve outcomes.

**90. TITLE:** THE 3 X 5 HIV/AIDS TREATMENT PLAN; CHALLENGES FOR DEVELOPING COUNTRIES FROM THE ZAMBIAN PERSPECTIVE

**Authors:** Chishimba S and Zulu F  
**Year:** 2004  
**Org/Inst:** Commonwealth ACT-Zambia  
**Status:** Published in the The XV International AIDSConference: Abstract no. B11132  
**Study Site(s):** Lusaka  
**Source:** The XV International AIDSConference: Abstract no. B11132

**Issues:** The World Health Organisation and UNAIDS have launched an ambitious 3 X 5 HIV/AIDS treatment plan. Taking cognisance of the multifaceted dimensions of the pandemic, major challenges, which include policy and operational issues, remain haunting Africa. The feasibility of Zambia's target, 100, 000 PWAs to be on ARVs by 2005 is discussed as a sample.

**Description:** Commonwealth ACT conducted a survey in Lusaka urban and rural settings to: 1) Assess the applicability of the treatment plan in Zambia. 2) Identify barriers to the implementation of a national HIV/AIDS treatment plan. 3) Identify strategic solutions to challenges associated with implementation of the treatment plan. Informants included Community-based Action Teams, beneficiaries and local authorities. FGDs were conducted and literature review on the plans of government was done.

**Lessons learned:** The following were identified as barriers; limited information on ARVs and their erratic supply, lack of a standardised ARV administration guideline, stigma, inaccessibility of quality counselling and testing, eligibility for ARVs may not be transparent (politicking), women may not have equal access to ARVs in rural settings, lack of PWAs and community involvement, insufficient nutrition, HAART may not be affordable to government, lack of wide spread quality viral load monitoring tests, ill equipped health care infrastructures, lack of a legal framework for quality control of ARVs, poor conditions of service for health workers, lack of coordination with traditional healers and the private sector.

**Recommendations:** A simple, affordable, accessible, feasible and sustainable treatment plan is critical to Zambia. Treatment of OIs, Community Capacity Development and involvement of PWAs, Infrastructure, Social support/poverty reduction, Capacity development for health personnel, and Monitoring and Evaluation are key parameters for the ARV plan. For effective quality control in ARVs distribution, a National Regulatory Agency should be formed.

91.	<b>TITLE:</b>	SOCIAL AND CULTURAL BARRIERS TO LONG-TERM HIV CARE: A CASE REPORT.
	<b>Authors:</b>	Mukuka I <sup>1</sup> , Sinkala M <sup>1,2,3</sup> and Wamulume C <sup>1</sup> <i>et al</i>
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	<sup>1</sup> Centre for Infectious Disease Research in Zambia, <sup>2</sup> Lusaka Urban District Health Management Team, <sup>3</sup>
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Background:** Though long-term HIV care has started in sub-Saharan Africa, many barriers still exist. The following is a case report from Lusaka, Zambia highlighting these obstacles.

**Description:** FM was pregnant at 23 weeks when she tested HIV-positive and enrolled in our HIV/AIDS treatment program. Though her husband was 30 years older and had lost 3 wives to chronic illnesses, he blamed FM for infecting him. FM was chased from the house upon disclosure of her HIV and only came back to the house after her husband fell sick. He eventually agreed to HIV testing after being visited by counsellors, but secretly threatened to beat his wife for disclosing her HIV status. FM's husband was found to be HIV-positive, severely immunosuppressed, and was started on antiretroviral therapy (ART). Meanwhile, still pregnant, FM fought off two bouts of severe illness. The first was a case of malaria requiring in-patient admission. During the second, counsellors found her at the home of a

traditional healer with tattoos all over her body. The traditional healer would only release her at night, when traditional medicines are believed most potent. FM was finally allowed to leave with the help of counsellors. Though we subsequently educated FM's mother on the potential for drug interactions between ART and traditional medicines, within 3 weeks she insisted FM return to the traditional healer to take the baby for treatment. Unfortunately the baby died after being tattooed on her forehead. FM's mother could not believe her daughter had HIV; she was convinced FM had become bewitched. Finally FM was taken to the village to continue with traditional medicines and also mourn her daughter. Her husband stayed in Lusaka to work and, without FM, his compliance to ART was now a concern. FM's mother blocked all contact attempts to the village, but eventually FM returned to Lusaka, found employment, and continued on the program. She will likely soon require ART.

**Conclusions:** Despite the comprehensive nature of programs like MTCT+, multiple barriers still exist to long-term care, including strong spousal, familial, and cultural influences. As ART programs expand, resources need to be dedicated to community sensitisation, community education, and close patient follow-up.

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92.	<b>TITLE:</b>	<b>HIVCORPS: USING VOLUNTEERS TO RAPIDLY EXPAND HIV HEALTH SERVICES ACROSS ZAMBIA</b>
	<b>Authors:</b>	Chi B, Fusco H, Goma F <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	HIVCorps
	<b>Status:</b>	Published in Am. J. Trop. Med. Hyg., 74(5), 2006, pp. 918-921
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Am. J. Trop. Med. Hyg., 74(5), 2006, pp. 918-921

In 2004, we created HIVCorps, an international volunteer program to involve pre-medical, medical, and public health students in the scale-up of HIV care and prevention services in Zambia. In our first year, we used 27 American and Zambian volunteers to assist with the administrative and logistical aspects of program implementation. Ten volunteers were based in the capital Lusaka; the remaining 17 were stationed across five rural districts. Supervision was provided by local health care providers, district officials, and hospital administrators. In our setting, the use of volunteers has proven feasible and effective for program support. Depending on a program's immediate needs, use of many basic field personnel may be more beneficial than employment of one to two trained clinicians. Formal volunteer programs like HIVCorps should be developed alongside initiatives focused on deploying more specialized, experienced healthcare workers aboard.

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93.	<b>TITLE:</b>	<b>DISTRIBUTION OF ANTIRETROVIRAL DRUGS IN ZAMBIA: AN ETHICAL INVESTIGATION</b>
	<b>Authors:</b>	Chomba C
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	The University of Zambia
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	National
	<b>Source:</b>	The University of Zambia

**The main objectives** of this study are firstly to assess the current government distribution policy of antiretroviral drugs in Zambia from an ethical point of view and secondly to suggest ways in which this distribution mechanism could be improved.

In order to achieve these aims the dissertation is designed as follows: chapter one highlights the current HIV and AIDS situation in Zambia in relation to antiretroviral treatment and shows that even though there are many people who are infected and need antiretroviral treatment, only a small number of these patients are put on treatment. The second chapter explains how ARVs are currently distributed in Zambia.

**Its main finding** is that there is no written policy on distribution of antiretroviral drugs in Zambia. However, a mechanism of distributing these drugs exists. In chapter three an attempt is made to critically evaluate the Zambian mechanism of distributing ARVs. Its strength and weaknesses are explained in a detailed way. The main strengths with Zambian mechanism of distributing antiretroviral drugs are that currently these drugs are distributed to patients free of charge. The distribution of ARVs is demand driven and thus prevents wastage of these drugs. The other strength is that each patient is given equal rights in receiving ARVs. The major weakness with the system is the lack of a specific policy of distributing these drugs. The other weakness is the use of first-come-first-served principle in distributing ARVs to patients. It has also been established through the study findings that the Zambian ART distribution system has largely used the clinical and lacks ethical considerations in administering of these drugs. In the last chapter, a number of recommendations are made on how the current system of distributing antiretroviral drugs could be improved. These suggestions are based on analysis of various distribution principles.

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94.	<b>TITLE:</b> <b>FAITH-BASED LEADERSHIP IN EFFECTIVE HIV/AIDS PROGRAM DELIVERY: IMPROVING ACCESS TO TREATMENT THROUGH CHURCH HEALTH INSTITUTIONS AND PARISH NETWORKS IN AFRICA, INDIA AND THE CARIBBEAN</b>  <b>Authors:</b> Galbraith J and Mathai R <b>Year:</b> 2003 <b>Org/Inst:</b> Catholic Medical Mission Board (CMMB) <b>Status:</b> Published in The XV International AIDS Conference: Abstract no. MoPeE4292 <b>Study Site(s):</b> South Africa, Botswana, Namibia, Swaziland, Lesotho <b>Source:</b> The XV International AIDS Conference: Abstract no. MoPeE4292
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**Background:** Catholic Medical Mission Board (CMMB) has been helping to deliver quality healthcare worldwide for 75 years. The organization has been a catalyst in bringing quality healthcare to the most vulnerable worldwide, through health, parish, and educational networks of in-country umbrella FBO's, Ministries of Health, international, non-governmental, & CBO's. CMMB's successful HIV/AIDS programs are: HIV / AIDS Prevention, Care and Support -Choose to Care (South Africa, Botswana, Namibia, Swaziland, Lesotho). HIV/AIDS Prevention and Treatment – Born to Live-PMTCT/PMTCT Plus (Global). Concerted faith-based action for scaling up HIV/AIDS care, prevention and treatment (India). TB-DOTS and AIDS related TB treatment (Zambia)Back to Haiti (Haiti, Caribbean)

**Lessons learned:** FBO's provide 40 to 50 percent of health care in most developing countries. The comparative advantage of faith-based organizations is having trust of

communities in addressing the issues of the HIV/AIDS pandemic: including stigma, discrimination, care and support, especially care of the dying. FBO's, as the largest non-governmental organizations in the world, have enormous unexploited capacity for delivering primary health care through their networks of health facilities, parish communities and formal and informal educational structures. Mobilization of community home-based care volunteers through the social networks of the parishes has demonstrated the vast potential for leveraging the delivery of improved health care services in developing countries even with very poor infrastructures. International FBO's like CMMB are ideally positioned to be the catalysts for such leverage through the already existing health, educational and community systems of their in-country faith-based partners. The International FBO leveraged health programs are much more likely to be sustained as they are grafted onto the social systems of the local church. Such local ownership enhances success rates.

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<b>95.</b>	<b>TITLE:</b>	<b>HIV AND AIDS TREATMENT ACCESS ADVOCACY IN ZAMBIA</b>
	<b>Authors:</b>	Sichalwe P.
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	Zambia AIDS Law Research and Advocacy Network
	<b>Status:</b>	Published; AIDS 2006 - XVI International AIDS Conference: Abstract no. CDE0537
	<b>Study Site(s):</b>	Selected rural Zambia
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDE0537

**Issues:** Advocacy for access to and availability of anti-retroviral therapy, nutrition, home based care and support and quality health care provision in rural Zambia.

**Description:** The Zambia AIDS Law Research and Advocacy Network developed a video titled "Right to Life" that showcased the difficulty of accessing HIV/AIDS treatment in rural Zambia. The video was designed to be an advocacy tool to mobilize rural communities in demanding for equitable, effective and sustainable delivery of ARVs to rural Zambia. An advocacy training brochure has been developed to go with the video in the rural areas.

**Lessons learned:** Partly, the message and purpose of the video made it possible for the government of the Republic of Zambia to announce on the 13th of June 2005 that access to anti-retroviral treatment will be free to all who need them. Though treatment is free, evidence shows that still most people in rural Zambia are experiencing difficulties in accessing treatment. People have to walk long distances, spend more, to get to the nearest ART administering centre. Other issues of concern include inadequate nutrition for those on treatment, limited capacity of health care workers to administer treatment and stigma and discrimination.

**Recommendations:** It was envisaged that for these concerns to be addressed, the rural communities have to be empowered to speak out on issues affecting them. The Right to Life video led to the carrying out of advocacy training workshops for rural communities. This was with the view to mobilize communities for advocacy. This year, plans are underway to set up advocacy hubs in all the nine provinces of Zambia, to play the role of coordinating advocacy initiatives in rural areas through working with support groups so as to ensure equitable, accessible, sustainable and available treatment and all the accompaniments.

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96.	<b>TITLE:</b> COST-BENEFIT OF HAART AND ITS POTENTIAL FISCAL SAVINGS WITHIN THE PUBLIC SECTOR <b>Authors:</b> Fieno J. <b>Year:</b> 2002 <b>Org/Inst:</b> - <b>Status:</b> Published; the 3rd IAS Conference on HIV Pathogenesis and Treatment: abstract no. WePe11.5C04 <b>Study Site(s):</b> National <b>Source:</b> The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. WePe11.5C04
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**Introduction:** The introduction of highly active antiretroviral therapy (HAART) in high HIV-prevalence countries has given hope to thousands who have not had access to treatment. As high HIV-prevalence countries scale up care, the fiscal cost and sustainability of a universal HAART regime from the public health system have become critical issues. The scaling up of HAART, however, might produce substantial fiscal savings in the form of lower costs in sick pay, training of replacements, and funeral expenses for public employees. This poster describes a cost-benefit model for the introduction of HAART within the public sector that incorporates these savings.

**Methodology:** A simulation model is used for Zambia, one of the first countries to start a HAART program, over ten years. The cost to treat one patient with HAART in Zambia is roughly U\$500 per year. The overall cost to the public sector is determined by two variables: the number of HIV-positive employees and the employee share of the cost of care. Measures of fiscal sustainability will also be added to the model.

**Results:** Initial findings suggest that the fiscal savings in public administration due to HAART might be large. It was estimated that for the education sector in Zambia, the total per patient cost of HAART could be reduced by 40 to 46 percent (Kombe, Fieno et. al., 2004). More data are being collected to model the entire public sector.

**Conclusions:** The cost of the AIDS epidemic for the state is already high without treatment. The cost-benefit analysis demonstrates that the total cost of HAART is lower than originally thought, which offers a ray of hope. The Millennium Development Goals will never be achieved if the AIDS epidemic exhausts the medical and teaching corps of high HIV-prevalence countries as expected. The introduction of HAART can reverse this process and make these development goals attainable.

97.	<b>TITLE:</b> THE FEASIBILITY OF INITIATING AN HIV TREATMENT PROGRAM IN A PRIVATELY FUNDED HOME FOR THE DESTITUTE AND THE SICK <b>Authors:</b> Bolton C <sup>1</sup> , Hill R Y <sup>2</sup> and Zulu I <sup>1,2,3</sup> <i>et al</i> <b>Year:</b> 2004 <b>Org/Inst:</b> <sup>1</sup> Centre for Infectious Disease Research in Zambia, <sup>2</sup> University of Alabama at Birmingham, <sup>3</sup> University of Teaching Hospital, <b>Status:</b> Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference <b>Study Site(s):</b> Lusaka <b>Source:</b> Abstract Book, 3rd National Health Research Conference, Zambia
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**Introduction:** In May 2004, we began a HIV treatment program in a charity-run home, caring for very ill, impoverished, and destitute individuals in Lusaka, Zambia. We describe the feasibility of establishing VCT and HIV care services in this type of setting and examine the baseline characteristics of those that enrolled.

**Description:** As part of program implementation, two full-time nurse-counsellors were hired to help identify new clients, educate and counsel patients on HIV, perform rapid on-site HIV-1 testing, and complete post test counselling. A full-time clinical officer was brought in to provide medical evaluations and clinical care. All patients who tested HIV-positive were informed about the HIV treatment program and offered enrolment. A full physical exam (which included WHO staging for HIV) and CD4 testing were performed at the enrolment visit. Eligibility for antiretroviral therapy (ART) was determined according to recent WHO guidelines: adults with an absolute CD4 count less than 200; adults in WHO stage 3 with an absolute CD4 <350; adults in WHO Stage 4. Those receiving ART were given their tablets daily by medical staff under direct observation. In May – July 2004, 140 of the 160 residents (80%) of the home accepted VCT. Of this group, 115 (82%) were found to be HIV-positive. A total of 56 enrollees were placed on ART: 41 (73%) were newly started and 15 (27%) were continued on previously initiated regimens. The median CD4 count for individuals on ART was between 50 and 100 cells/cm<sup>3</sup> and a high proportion had advanced clinical disease (88% were either WHO stage III or IV). Ten of the 56 (18%) on ART died, all within 5 weeks of treatment initiation.

**Conclusion:** Implementation of HIV treatment programs in community care facilities is feasible. As demonstrated by this program, a majority of residents at these sites are infected with HIV and are eligible for relatively urgent ART. Though a proportion of individuals will die despite the initiation of HIV treatment, most deaths occur in patients with advanced disease. Due to the very small sample size and the early stage of this program, it is not yet possible to evaluate the effect it has on mortality and morbidity in this population.

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98.	<b>TITLE:</b>	EXPERIENCE WITH HAART AT NCHANGA SOUTH HOSPITAL
	<b>Authors:</b>	Trivedi M. K.
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	Nchanga South Hospital, Chingola, Zambia
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Chingola
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Study settings:** Hospital records of patients on HAART were studied and later specifically designed forms were used to keep the information population easily accessible and handy. The parameters were entered in these forms on each clinic visit.

**Problem statement:** Before introduction of HAART diagnosis of AIDS in a person has had very severe implications on his or her life. Benefits of HAART are well known since its introduction in Western World in 1996. Cost of these drugs in past have been prohibitive, since 2002 prices have been affordable by some of our patients and later the National programme for ARV helped them to continue treatment.

**Objectives:** See efficacy and benefits of HAART in our environment.

Design: Retrospective observational study, on going.

**Outcome Measures:** Clinical improvement, mortality, hospitalization, side effects of antiretroviral drugs and CD4 cell count were studied before and after starting the treatment.

**Conclusions:** Significant clinical improvement is observed, more than 50% patient were asymptomatic and gained weight. Only 22% patient were hospitalized once started treatment, very few side effects were observed. CD4 cell rose to over 100 irrespective of initial CD4 cell count, probability of remaining on treatment is about 80%.

Funding sources: None.

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99.	<b>TITLE:</b> <b>FEAR OF HIV SERODISCLOSURE AND ART SUCCESS: THE AGONY OF HIV POSITIVE MARRIED WOMEN IN ZAMBIA.</b> <b>Authors:</b> Zulu K.P. <sup>1</sup> <b>Year:</b> 2002 <b>Org/Inst:</b> Zambia Association for Prevention of HIV and Tuberculosis <b>Status:</b> Completed and published in The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe11.9C03 <b>Study Site(s):</b> Lusaka, Ndola, Kitwe, Livingstone and Mansa <b>Source:</b> The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe11.9C03
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**Introduction:** ART is a life long commitment and success depends heavily on patients' adherence and a supportive environment. For married women, HIV serodisclosure to partners is critical. Objectives of the study were to assess HIV serodisclosure and ART success among married women in Zambia.

**Methodology:** Married women on ART completed standardized questionnaire including in-depth oral interviews. Among questions included were on HIV serodisclosure to a partner and cultural observance, ART adherence, partner sexual behaviour and legal protection. The study area was across five (5) districts. (Lusaka, Ndola, Kitwe, Livingstone and Mansa)

**Results:** Out of 560 women, who participated, 66% did not disclose the status to a partner due to fear of blame, abandonment and losing the economic support of their partner. Data cite courts of law in Zambia to be driving fear of disclosure in women, as divorce is granted to men on the grounds that a wife went for VCT and is on ART without approval. Men's cultural control of sex and matrimonial decisions suggests women's exposure to possible re-infection. More than 21% had their regimen shared in half with a non-tested husband. The results further suggest that 76% did not adhere to ART regimen as prescribed because they are trying to hide their pills. 94% had no access to legal protection.

**Conclusions:** Although more men in Zambia access ART, data analysis suggests that women have superior clinical outcomes once on ART when supported. But gender-based violence, denial and fear of HIV serodisclosure to partners, and the customary law, which has disadvantaged women for decades, undo would-be success. ART success in women depends on the legal rights and freedoms, supportive cultural behaviour and an enabling health care system. Thus, legal and health-care system is a major entry point to ending this conspiracy of customary law, culture and violence against women.

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100.	<b>TITLE:</b> <b>PREPARING COMMUNITIES FOR ART IN ZAMBIA; COMMUNITY EDUCATION AND REFERRAL- BASELINE SURVEY</b> <b>Authors:</b> Simbaya J, Nduwani P. <b>Org/Inst:</b> Institute for Economic and Social Research <b>Year:</b> -
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<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0536
<b>Study Site(s):</b>	Lusaka and Ndola
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0536

**Background:** Community Education and Referral; Supporting Adherence to ART and Prevention for People with HIV in Zambia (ACER Project) is aimed at improving health seeking behaviour, equity of access, adherence to ARV treatment, and HIV/AIDS prevention.

**Methodology:** A 32-month quasi-experimental study with data collection points are at baseline and end line. A total random sample of 1200 was recruited for the study and interviewed using a semi-structured questionnaire.

**Results:** The community baseline survey reaffirms the existing information that people knowledge on basic facts about HIV/AIDS is quite high (87%). Equally, whilst ARVs are new on the scene, there is growing awareness about HIV/AIDS treatment. On the question whether ARVs can prolong life, 64% answered in affirmative, with disparities between Lusaka (85%) and Ndola (42%). The significance of this finding is that the more people realize that ART can prolong life the more they may want to access treatment. Thirty percent of the respondents reported having taken an HIV test whilst 49% were planning to take an HIV test. The study revealed a relatively high level (84%) of western health care utilization and positive attitude towards adherence to HIV/AIDS treatment among community members. When asked whether they could care for and support a family member with HIV, the majority (84%) said they could, suggesting an existence of a strong family support needed to promote adherence to ART. Stigma is still high (67% said they would not buy meat from a HIV positive butcher and 60% said they could not eat food prepared by an HIV-infected person).

**Conclusions:** The findings suggest scaling up of community activities to increase VCT uptake if people have to benefit from ART. Increased community education is likely to positively influence health-seeking behaviour, increase access, strengthen support networks and decrease stigma.

<b>101.</b>	<b>TITLE:</b>	<b>STUDY TO ASSESS THE KNOWLEDGE OF NURSES IN THE MANAGEMENT OF HIV POSITIVE PATIENTS ON ANTI RETROVIRAL THERAPY IN NDOLA DISTRICT OF ZAMBIA.</b>
	<b>Authors:</b>	Biemba K. M
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	Lewanika School of Nursing
	<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Ndola
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia

**Objective:** The overall objective of this study was to assess the knowledge of nurses about the management of HIV/AIDS patients on ART in Ndola district.

**Methodology:** The design that was used in this study was a descriptive, cross-sectional and non-experimental qualitative and quantitative research design. The setting for the research project was Ndola Central Hospital and Ndola District Health Centres providing ART. The

study population comprised of all nurses working at Ndola District and those working at Ndola Central Hospital. The study sample was selected using stratified random sampling. The sample size for this study was 50 nurses. A structured questionnaire was the tool used to collect data from the study subjects. The researcher got permission from the Directors of Ndola Central hospital and Ndola District Health Management Team, to collect data from the nurses. The data was analysed manually using a data master sheet as soon as the respondents returned the first questionnaires. The data were presented in tables and figures.

**Results:** Only slightly more than a quarter of the respondents correctly defined HIV as Human Immunodeficiency Virus, while less than half of the respondents correctly defined AIDS as Acquired Immunodeficiency Syndrome. Half (51%) of the respondents were able to identify the three ARV drug groups. Most (94%) of the respondents were able to give examples of ARV drugs, and mention some side effects of ARVs. Most (76.1%) of the respondents had not received training in ART management, yet most of them had a high level of knowledge on ART. About half (52%) of the respondents said that treatment protocols for ART were available in their departments. Most (62%) of the respondents said there was literature on ARVs available in their departments. More than half (62%) of the respondents had read ARV and HIV/AIDS literature a week before the time of data collection, and as many also agreed that they held clinical meetings or nursing conferences at their institutions.

**Conclusions:** The study was carried out to assess the levels of knowledge about ART among the nursing fraternity in Ndola. Its purpose was to highlight the prevailing situation and some of the factors that affect the knowledge that nurses have, in order that solutions may be found that will ensure that they provide care and support to people on ART that ensures treatment compliance and prevents resistance. The healthcare delivery system depends mostly on nurses for service provision hence the need to provide continuing education and support with respect to HIV/AIDS/ART. This will maximise the utilisation of staff especially in the peri-urban areas in the management of ART and enable patients to be managed effectively and efficiently right where they are even in the absence of a doctor.

Funding Sources: Ministry of Health

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102.	TITLE:	<b>EXPERIENCES FROM AN ART CLINIC IN RURAL ZAMBIA</b>
	Authors:	Kraak R <sup>3</sup> , Thuma P <sup>1</sup> , J. H. van Dijk <sup>1,2,3</sup> <i>et al</i>
	Year:	2006
	Org/Inst:	Malaria Institute at Macha, Choma, Zambia <sup>1</sup> Macha Mission Hospital, Choma, Zambia <sup>2</sup> ERASMUS MC - University Medical Center Rotterdam, the Netherlands <sup>3</sup>
	Status:	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	Study Site(s):	Choma
	Source:	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** The study was designed to evaluate baseline characteristics and outcomes among HIV-1 infected patients receiving HAART in Macha, Zambia. This information will assist the health care providers at Macha Hospital in future planning and improvement of the HIV care service being offered.

**Methodology:** Data from HIV patients seen at the Macha ART clinic were confidentially obtained from the CareWare® database and were used to characterize the HIV population in Macha and the surrounding area. Information obtained includes sociodemographic data,

clinical data, and pharmacy and laboratory data. The selection of patients and extraction of data was done at the Malaria / Medical Institute at Macha, a research institute that has primarily been involved in malaria research and is now branching out to other diseases like HIV and TB.

**Results:** The government ART program in Macha, which is being supplemented by AIDSRefief Zambia, provided data for 494 treatment-naive patients starting HAART in the period from March 2005 till May 2006. Data will be presented showing socio-demographics of the ART clinic population, criteria for initiation of therapy, and drug regimens used. **Conclusions:** The ART program at Macha Hospital is a busy clinic, which is rapidly expanding. Supplementary funding in addition to the government program has made it possible to have a consistent program. There are many challenges encountered and evaluation of the program is necessary to be able to address these. Especially in resource limited and understaffed settings it is important to identify, evaluate, quantify, and prioritise the areas that need practical action.

Funding Sources (of the research); The Malaria Institute at Macha, Choma, Zambia

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103.	<b>TITLE:</b>	<b>FORMALIZING REFERRAL NETWORKS: INCREASING ACCESS TO AND INTEGRATION OF HIV PREVENTION, CARE, TREATMENT AND SUPPORT SERVICES</b>
	<b>Authors:</b>	Stuart L.
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	Zambia Prevention Care and Treatment Partnership
	<b>Status:</b>	Published in an Abstract Book of the AIDS 2006 - XVI International AIDS Conference: Abstract no. MOPE0644
	<b>Study Site(s):</b>	National
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. MOPE0644

**Issues:** As HIV prevention, care and treatment are expanded in resource constrained settings, more services become available to meet the essential needs of PLHA. Accessing services, however, requires knowing what services are available, where they are located and how they can be reached. While informal referral systems exist in some areas, they rarely provide systematic coordination to optimize access and strengthen integrated service delivery.

**Description:** The Zambia Prevention Care and Treatment Partnership funded by USAID through the U.S. President Emergency Plan for AIDS Relief is collaborating with the Government of Zambia to scale-up CT, PMTCT, clinical care and ART in five provinces. Linkages with local PLHA groups and organizations providing HBC, nutrition, income generation, spiritual support and other services are crucial for the comprehensive care and support of PLHAs and their families. In the absence of referral systems that effectively coordinate service providers and facilitate access to services, ZPCT operationalized a referral network model including: seconding a referral coordinator in each province to work closely with provincial and district health authorities and local services; mapping district HIV-related services; conducting stakeholders meetings to mobilize broad sectors of communities; developing operational procedures including service-based referral focal persons, monthly meetings of service providers to enhance coordination, standardizing tools (referral form, register) and feedback to confirm access and patient satisfaction.

**Lessons learned:** Formalizing referral networks standardizes mechanisms for enhancing coordination between service providers, resulting in increased access to and integration of

services. However, the extensive requirements to rapidly expand HIV prevention, care and treatment can consume funding needed for creating functional referral networks.

**Recommendations:** Local ownership by service providers and stakeholders, and standardizing procedures and tools, are key to sustaining a well-functioning referral system. Committing resources to referral networks as a programmatic priority is recommended as an effective strategy to increase access to HIV-related services

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104.	<b>TITLE:</b>	<b>FAITH-BASED ORGANIZATIONS PLAY A MAJOR ROLE IN HIV/AIDS CARE AND TREATMENT IN SUB-SAHARAN AFRICA: ARHAP-WHO RESEARCH PROJECT: ZAMBIA AND LESOTHO</b>
	<b>Authors:</b>	Ted K and Iqbal N
	<b>Year:</b>	2007
	<b>Org/Inst:</b>	African Religious Health Assets Programme (ARHAP)
	<b>Status:</b>	Ongoing
	<b>Study Site(s):</b>	Zambia and Lesotho
	<b>Source:</b>	African Religious Health Assets Programme (ARHAP)

The study, "Appreciating Assets," documents the contribution made by religion and religious entities to the struggle for health and well-being in Zambia and Lesotho, in a context dominated by poverty, stressed public health systems and the HIV/AIDS pandemic.

**Objective:** By mapping and understanding these Religious Health Assets (RHAs), the study calls for a greater *appreciation* of the potential they have for the struggle against HIV/AIDS and for universal access and offers recommendations for action by both public health and religious leaders at all levels. Through respectful engagement these assets have the potential to increase in strength and value and become more effective in the long-term sustainability, recovery and resilience of individuals, families and communities.

The year 2006 marks the 25th anniversary of the first published description of HIV/AIDS and a pivotal year for the pandemic. Over the past quarter century, an estimated 60 million people worldwide have become infected with the virus, 20-25 million have died and millions more have been affected by the loss, pain and suffering that accompany the disease. Zambia and Lesotho, in southern Africa, the two study sites for this research, are among the countries hardest hit, with estimated adult HIV/AIDS prevalence rates of 17.0% and 23.2% at the end of 2005, respectively.

**Results:** This study, which presents research findings comprehensively, is the first attempt to assess and map both the tangible and intangible assets of religious entities through a blending of Participatory Engagement Workshops and GIS Mapping. A suite of research tools, PIRHANA, (Participatory Inquiry into Religious Health Assets, Networks and Agency) was developed for this purpose. Over the course of nine months, November 2005 - July 2006, ARHAP research teams engaged more than 350 citizens and religious and health leaders, identified through purposive sampling, from the remote mountains of Mohlanapeng in Lesotho to the urban centre of Lusaka in Zambia, in a participatory and appreciative inquiry into the nature and potential contributions of religious entities to the struggle against HIV/AIDS, to universal access to treatment, care and prevention, and to health and well-being more broadly. Our findings reflect the collective knowledge and deep wisdom of the participants who work in a daily struggle for survival and at the heart of the pandemic.

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105.	<b>TITLE:</b> CARING FOR THE CAREGIVERS IMPROVES ZAMBIAN AND SOUTH AFRICAN AIDS TREATMENT AND STRENGTHENS HUMAN HEALTH RESOURCES <b>Authors:</b> Mutati C. <sup>1</sup> , Nkosi O. <sup>2</sup> , Russell D. <sup>3</sup> <b>Year:</b> 2005 <b>Org/Inst:</b> Zambia Nurses Association <b>Status:</b> Published in the AIDS 2006 – XVI International AIDS Conference: Abstract no. CDD0728 <b>Study Site(s):</b> 4 Provinces <b>Source:</b> AIDS 2006 – XVI International AIDS Conference: Abstract no. CDD0728"
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**Issues:** Nurses in southern Africa carry the primary responsibility for AIDS care, treatment and support. The gender bias of the profession, the traditional hierarchy within health institutions and the challenge of addressing the health needs at work, in the community and at home contributes to a weaken health care system. Addressing the needs of the health workers / caregivers leads to stronger health care systems and better care of those living with HIV.

**Description:** The Zambia Nurses Association undertook a study in 4 provinces with 246 participants to identify the needs of health workers / caregivers. Data was collected using interviews, questionnaires, observation, focus groups and a literature review. The study found that health workers faced severe challenges addressing the impact of HIV, yet no programs were directed at providing them support. It identified a dire need for such services especially if control of transmission of HIV in the workplace was to be realized. Zambian and South African nurses associations, based on the findings, developed programs that enabled their members affected and infected by AIDS, to be mentally and emotional prepared and supported to meet the needs of those affected and/or living with HIV/AIDS.

**Lessons learned:** Peer support programs in both countries led to increased use of voluntary counselling and testing. Workshops led to reduced stigma and discrimination both within the profession and towards patients. There was increased knowledge about HIV and HIV support services were accessed by nurses.

**Recommendations:** That health care provider organizations undertake programs to provide support to its members to address the impact of HIV in order to facilitate implementation of the global response required by the pandemic.

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106.	<b>TITLE:</b> A COMMUNITY-BASED CONTACT TRACING PROGRAM FOR PATIENTS ENROLLED IN A DISTRICT-WIDE PROGRAM FOR ANTIRETROVIRAL THERAPY (ART) <b>Authors:</b> Krebs D, Chi B, Mulenga Y <i>et al</i> <b>Year:</b> 2005 <b>Org/Inst:</b> Centre for Infectious Disease Research in Zambia, Project Concern International, University of Alabama at Birmingham. <b>Status:</b> Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006 <b>Study Site(s):</b> Lusaka <b>Source:</b> XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract TUPE0143.
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**Background:** Follow-up of patients after missed clinic visits is an important adjunct to long-term HIV care. In African settings, there are little data describing the reasons behind missed visits and the rate of return visits following community-based contact tracing.

**Methods:** We implemented community outreach at 11 ART sites in Lusaka, Zambia. Local home-based care organizations were selected to trace patients who missed their visits using patient locator information collected at enrolment. Individual-level patient information was derived from a large, programmatic database.

**Results:** From May-05 to Sept-05, community health workers were dispatched to contact 1366 patients with missed clinic visits. Of these, 565 (41%) were not traceable because the address provided was not valid (n=280), the patient had moved (n=233), or the patient was not at home (n=52). Of the remaining 801, 366 (46%) were reported to have died; 435 (54%) were contacted directly and reminded about their clinic visit. When these patients were asked why they missed appointments, 169 (39%) cited structural or logistical barriers to adherence, such as feeling too sick to come to the clinic or being away from home temporarily. Psychosocial barriers were cited by 99 (23%) patients, including competing daily priorities and the negative influence of others. 53 (12%) patients reported medication-specific reasons, such as having a surplus of medication or no longer feeling ill. Patients with whom community workers made contact were more likely to return to care compared with those who were untraceable (28% vs. 12%, p<0.0001). Median time from community worker interaction to return clinic visit was 12 days (IQR=5-27).

**Conclusions:** Despite the availability of free ART in Lusaka, there are still many barriers to adhering to visit schedules. This community-based program to trace patients after missed visits improved follow-up rates modestly. Further operations research is needed to assess optimal strategies for outreach and its cost-effectiveness.

107.	<b>TITLE:</b>	RAPID SCALE-UP OF ANTIRETROVIRAL SERVICES IN ZAMBIA: 1-YEAR CLINICAL AND IMMUNOLOGICAL OUTCOMES.
	<b>Authors:</b>	Sinkala M, Levy J, Zulu I, Mwango A <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Zambia, University Teaching Hospital, Center for Disease Control and Prevention, University of Alabama at Birmingham.
	<b>Status:</b>	Published in the abstract book of the 13 <sup>th</sup> Conference on Retroviruses and Opportunistic Infections in Denver, CO, February 5-8, 2006; Abstract 64.
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	13 <sup>th</sup> Conference on Retroviruses and Opportunistic Infections in Denver, CO, February 5-8, 2006; Abstract 64.

**Background:** Massive scale-up of HIV care and treatment services is currently underway in a number of developing countries. Whether these efforts will translate into favourable long-term outcomes is not fully known.

**Methods:** We report on programmatic outcomes from 18 public and private clinical sites across 3 provinces of Zambia. Clinical care has been standardized according to national guidelines. Initiation of ART is dependent upon World Health Organization (WHO) clinical staging and CD4 cell count. First-line drug regimens are zidovudine (ZDV) or stavudine (d4T), plus lamivudine (3TC), plus nevirapine (NVP) or efavirenz (EFV). Individual-level outcomes data are collected through a computerized record system and standardized chart

review. **Results:** From April 2004 to August 2005, we enrolled 18,075 adults into a government HIV care and treatment program, and started 11,074 (61%) on ART. Of those starting ART, 6806 (61%) were women. Among those commencing ART, mean CD4 was 131 (IQR 52 to 182), mean body mass index was 21.3 (IQR 17.9 to 22.4), and 8009 patients (73%) were WHO stage III or IV. Over 81,248 patient-months, 1269 patients died (crude death rate 0.016 deaths/patient-month); 43% of deaths occurred in patients with entry CD4  $\leq 50$  and 53% of deaths occurred within 60 days of enrolment. In a multivariable Cox regression, restricted to those on ART, risk of death was strongly associated with entry CD4 $^{+}$  count  $\leq 50$  (adjusted hazard ratio [AHR] = 2.1, 95%CI 1.8 to 2.4), WHO stage III or IV (AHR = 1.9, 95%CI 1.5 to 2.4), body mass index  $< 16$  (AHR = 2.2, 95%CI 1.8 to 2.5), haemoglobin  $< 8$  (AHR = 2.6, 95%CI 2.2 to 3.1), and male gender (AHR = 1.4, 95%CI 1.2 to 1.6). At least 6 months of follow-up was given 11,854 individuals to allow assessment of CD4 response. Those starting ART ( $n = 8284$ ) had a greater mean increase in CD4 at 6 months (+61 vs. +5 cells/ $\mu$ L;  $p < 0.0001$ ) and at 12 months (+85 vs. -23 cells/ $\mu$ L;  $p < 0.0001$ ) than those not on ART.

**Conclusions:** Rapid initiation of ART in a programmatic setting led to favourable clinical outcomes at 6 and 12 months in Zambia. Advanced HIV disease was a very strong predictor of mortality in this population, suggesting that every effort should be made to identify and treat infected patients earlier in their disease course.

108.	<b>TITLE:</b>	<b>RAPID DEPLOYMENT OF ANTIRETROVIRAL THERAPY (ART) SERVICES IS FEASIBLE AND EFFECTIVE IN RESOURCE-LIMITED SETTINGS IN SUB-SAHARAN AFRICA.</b>
	<b>Authors:</b>	Stringer JSA, Zulu I, Chi B <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Zambia, University Teaching Hospital, Center for Disease Control and Prevention, University of Alabama at Birmingham, Elizabeth Glaser Paediatric AIDS Foundation
	<b>Status:</b>	Published in the abstract book of the 12 <sup>th</sup> Conference on Retroviruses and Opportunistic Infections, Boston, MA, February 22-26, 2005;
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	12 <sup>th</sup> Conference on Retroviruses and Opportunistic Infections, Boston, MA, February 22-26, 2005; Abstract 638b.

**Introduction:** Donor mechanisms have made funding available for rapid scale-up of ART services in many settings. The feasibility and potential for favourable clinical outcomes of such programs are largely unknown in the poorest affected countries.

**Methods:** We helped the Zambian government in rolling out an ART program in Lusaka using primarily US Emergency Plan funding. Support included: 1) developing form-guided patient (pt) care protocols and 2) training non-MDs (nurses, clinical officers) in their use; 3) renovation of clinical space; 4) payment of overtime shifts for additional clinicians; 5) support of pharmacy and 6) lab; 7) development of an electronic pt tracking and outcomes monitoring system; 8) provision of clinical care oversight. First line drug regimens were ZDV or D4T + 3TC + NVP. We targeted populations likely to require ART.

**Results:** Between Apr and Dec 2004, we trained 246 providers and initiated free ART

services in 9 district health clinics and 2 hospices. 9740 pts were enrolled into HIV care. 61% were women. 6054 pts started ART based on CD4 and/or clinical eligibility. At time of writing, 1043 pts were enrolled for greater than 6 months and had outcomes data from their 6-month follow-up (f/u) visit. Median entry CD4 of f/u cohort was 115 (IQR: 46 – 246); 696 (67%) were WHO stage III or IV. Those starting ART had a mean CD4 increase of  $143 \pm 135$  cells/cc and mean weight gain of  $3.1 \pm 7.0$  kg (vs.  $26.0 \pm 142$  cells/cc and  $0.2 \pm 3.7$  kg among those not starting ART;  $p < 0.001$  for both comparisons). Over a total of 5132 pt-months of follow-up, 110 pts died (crude death rate 0.021 deaths / pt-month). 42% of deaths occurred in pts with entry CD4  $\leq 50$  and 71% died within 60 days of enrolment. Factors associated with death at 6 mo f/u in bivariate analysis included baseline CD4  $\leq 200$  (RR=2.5; 95%CI 1.5-4.2), stage III or IV disease (RR=4.9; 2.6-9.3), BMI  $< 16$  (RR=6.1; 3.6-10.5), TB co-infection (RR=2.0; 1.4-3.0), and haemoglobin  $< 8$  (RR=3.5; 2.2-5.5). In multivariable logistic regression, ART appeared protective against death (RR=0.7; 95%CI 0.3-1.4) after adjustments were made for CD4 and WHO stage. Risk of death remained strongly associated with WHO stage, BMI  $< 16$ , and haemoglobin  $< 8$ .

**Conclusions:** This early experience suggests that rapid scale-up of clinically effective ART services is feasible in resource-limited settings. Targeting very ill populations resulted in high program mortality, but also saved many who would have surely died.

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109.	<b>TITLE:</b>	CARE AND TREATMENT OF HIV-INFECTED FAMILIES IS FEASIBLE IN LUSAKA, ZAMBIA
	<b>Authors:</b>	Wamulume C, Stringer E. M, Luhanga D <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Alabama at Birmingham
	<b>Status:</b>	Published in the abstract book of the XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004; Abstract ThPeB7085.

**Background:** In Zambia the proportion of children with either a mother or both parents dead is as high as 11%. Approximately 1,000 HIV infected mothers are identified each month through PMTCT services in Lusaka.

**Methods:** In April 2003, we initiated an HIV treatment program at one Lusaka District health clinic through the MTCT Plus Initiative. HIV-infected women were identified in antenatal and postnatal clinics and referred to the program. After an index woman enrolls, she is able to enrol her partner and children. Criteria for starting ART are: CD4 count  $< 200/\text{mm}^3$ , CD4  $< 350$  with WHO Stage II, III, or WHO Stage IV regardless of CD4. Individuals not meeting criteria for ART have regular clinic visits, receive multivitamins and INH prophylaxis against TB, and are given food supplements from the World Food Program.

**Results:** From Apr - Nov 03, we enrolled 79 adults: 60 women (76%) and 19 partners (24%). 51 (85%) of the women were pregnant and 9 (15%) postpartum. 34 children were enrolled. 46 of the women (80.8%) were married. Despite 49 of the 60 enrolled women disclosing their status to their partner, only 19 partners had enrolled thus far. The average age of the partners in the program was 35 yrs vs. 27 yrs in the women;  $p=.0001$ . Partners were also more educated than women (12.0 yrs vs. 8.5 yrs;  $p=0.002$ ). Clinically, the majority of enrollees were WHO Stage I at baseline, 55(92%) women and 16 (84%) men ( $p=\text{ns.}$ ) There was a trend toward higher CD4 among women compared to men at

enrolment (375 vs. 311; p=0.11). Through November, the number of persons initiating ART was 22 ( 27.8%). No patients in the program have discontinued therapy due to toxicity nor has anyone been lost to follow-up.

**Conclusions:** Although our HIV treatment program is small and new, results to date show that it is feasible in the Zambia setting.

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110.	<b>TITLE:</b>	RAPID ASSESSMENT OF ANTI RETROVIRAL THERAPY (ART) SERVICES IN ZAMBIA
	<b>Author(s):</b>	Macwangi M. and Siwale M.
	<b>Year:</b>	2004
	<b>Inst/Org:</b>	NAC, MOH/CBOH and WHO
	<b>Status:</b>	Completed
	<b>Study Sites:</b>	National
	<b>Source:</b>	WHO, MOH and INESOR

**Objective:** The general objective of the study was to assess the status of anti-retroviral therapy (ART) implementation in the public and private sector in Zambia.

**Specific objective were:**

- To assess the current state of ART programs, including constraints faced in both the public and private sector institutions.
- To assess entry points into ART in both the public and private sectors;
- To assess the Home based care centers and access to ART programs for their clients.
- To assess community awareness of ART programs among the community,
- To asses accessibility of HIV/AIDS related and ART services by the community
- To recommend possible solutions to identified challenges.

**Methodology:** A rapid assessment was conducted of the services available to provide antiretroviral therapy (ART) in Zambia. Twelve public and 14 private sector institutions in thirteen Districts providing ART were surveyed using both qualitative and quantitative methods. Content analysis was used for the qualitative analysis of the study. Five evaluation instruments were used:

- (i) Public sector provider questionnaire,
- (ii) Private sector provider questionnaire,
- (iii) Home based care provider questionnaire,
- (iv) Focus group discussions and
- (v) Key informant interviews. Interviews were conducted with representatives from the community including youth leaders, church leaders, traditional healers, family care givers and community leaders

**Results:** Key results include that institutions visited were collecting a lot of information being collected but there were no common specific indicators that were being tracked for over time; health facilities had the basic capacity to provide services for people living with HIV/AIDS but their ability to cope with the impending increase in demand for the services was limited and there was shortage of trained staff to cope with current and even worse the growing number of patients. The supply of test kits, laboratory reagents, specimen bottles and medicines needs to be discussed and planned in details to ensure regular and sustained supplies. The cost of ARVs and related expenses such as diagnostic services was of major concern to both providers and the community and finally the coordination of ART services among providers was weak resulting in duplication of services. Based on these findings these report makes recommendation s to strengthen and scale up ART services

**Strategic objective 10: Expand treatment for tuberculosis sexually transmitted infections (STIs) and other opportunistic infections (OIs)**

111.	<b>TITLE:</b>	CHALLENGES OF MANAGING TB AT KAMFINSA PRISON IN ZAMBIA
	<b>Authors:</b>	Sanjobo N
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	Copperbelt University, Kitwe, Zambia
	<b>Status:</b>	Published; The XV International AIDS Conference: Abstract no. TuPeC4692
	<b>Study Site(s):</b>	Kanfinsa Prison Kitwe
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. TuPeC4692

**Issue:** TB is one of the most important opportunistic infections among inmates with HIV/AIDS. The emergence of HIV among the prisons population has increased susceptibility to TB.

**Description:** Kamfinsa Prison is the largest prison in Zambia. It was built over 40 years ago with a capacity to hold about 300 inmates. The current daily average population is 1000.27% of the inmates are HIV positive, 15% suffer from STIs. An average of 80 inmates contracted TB at Kamfinsa Prison every year from 2000 unto 2003. 12% of the inmates who contracted TB died. The prison clinic lacks investigatory capacity for TB. The clinic has no transport to refer inmates to hospital, hence the delays in commencing treatment. The clinic has no Nurse. The only health worker available operates in 2 health centres. Nutrition supplements are not available to inmates on TB medication. The prison cells are highly congested, poorly ventilated and the infrastructure is dilapidated, an atmosphere conducive for the transmission of TB.

**Lessons learned:** Compliance to 'DOTS' has proved difficult to achieve because of the rudimentary health service available. Security concerns tend to compromise genuine public health issues.

**Recommendations:**

All inmates have the right to access health care, including preventive measures, equivalent to that available to the community without discrimination.

Government must enforce the provisions for the treatment of inmates as provided for in the Prisons Act of the Laws of Zambia.

112.	<b>TITLE:</b>	A STUDY TO DETERMINE THE CONTRIBUTING FACTORS TO THE HIGH PREVALENCE OF TUBERCULOSIS AMONG NURSES IN THE UNIVERSITY TEACHING HOSPITAL IN LUSAKA, ZAMBIA
	<b>Authors:</b>	Chinwendu D and Chanda O.
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	The University of Zambia, School of Medicine
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	University Teaching Hospital
	<b>Source:</b>	The University of Zambia, School of Medicine

This study was undertaken in order to identify the contributing factors to the prevalence of Tuberculosis among nurses in UTH in order to design strategies for prevention of tuberculosis among nurses.

**The objectives** of study were: To identify both service and community factors that contribute to nurses developing tuberculosis; To establish the opinion of nurses towards tuberculosis prevention; To make recommendations to policy-makers regarding prevention strategies. The study was conducted at University Teaching Hospital in Lusaka with an establishment of 2656 workers. Data was collected using self-administered interview schedule, retrospective record review, and observation of infection, prevention and control measures in the hospital and focus group discussions with 12 nurses.

**Results** showed that socio-economic factors did not significantly affect the outcome of tuberculosis, confirming the correct status of unconventional tuberculosis. There was irregular supply of items required to maintain basic hygiene practices. Mycobacterium tuberculosis was isolated from nursing care equipment like suction tubing, a pillow and a locker in ward environment.

Focus group discussions showed that nurses believe that instituting primary preventive measures and better nutrition schedule are much more important and meaningful than ward rotations as one can be rotated from one high risk ward to another. The study also showed that the level of exposure does determine the outcome of tuberculosis (P. value 0.0107868). Illustrated in the study is the fact that BCG does not guarantee protection against the acquisition of tuberculosis among nurses (P. value 0.04238011).

**Retrospective case review** showed that 4 (80%) out of 5 tuberculosis patients who defaulted had a relapse which could have been a multi-drug-resistant tuberculosis which is easily transmissible and difficult to treat.

The study also found out that, community and health-care work place factors seem to synergistically contribute to nurses acquiring tuberculosis. It was noted, though, that sometimes when the factors are analysed singly, they seem not to affect the outcome of tuberculosis.

113.	<b>TITLE:</b>	INTEGRATION OF TUBERCULOSIS (TB) AND HIV CARE IN PRIMARY HEALTH CARE SERVICES IN LUSAKA, ZAMBIA
	<b>Authors:</b>	Kaminsa-Kabanje S, Jham M, Kancheya N <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University of Alabama at Birmingham.
	<b>Status:</b>	Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract MOPE0168.

**Issues:** Although >60% of TB patients are believed to be co-infected with HIV, links between these health services remain rudimentary at a primary care level. The ability to manage the convergence of TB/HIV epidemics is challenged by vertical approaches to care, and limitations in infrastructure and human resources.

**Description:** We developed a model for piloting integrated TB-HIV care. We believe that integrated care would allow staff to coordinate co-treatment; improve clinical monitoring/adherence; prioritize the transfer of patients between services; and address staff shortages by defining roles and sharing responsibilities. Existing outpatient, VCT, TB,

HIV, laboratory and pharmacy services were assessed at one government care facility in Lusaka, to map a strategy for services integration. A two-day clinic-based training was conducted to cross-train 28 health staff from various departments on TB-HIV and gather feedback on critical issues. Patient flow algorithms and re-formatted registers were developed for each department to clarify three elements: staff roles and responsibilities; patient flow taking into account multiple health centre entry points; specimen and information flow to ensure appropriate reporting/recording. A second clinic-based training was held to introduce revised algorithms and registers.

**Lessons learned:** Barriers to integration included: poorly defined outpatient flow, approximately six week delay for enrolment in HIV care, lack of systems to document HIV status, and difficulties prioritizing TB patient referral for HIV care. Integration strategies discussed and adopted were: diagnostic counselling and testing, immediate CD4 measurement for newly diagnosed HIV-infected TB patients, and spot sputum sampling in several clinic departments (VCT, HIV clinic, outpatient). Staff roles and responsibilities had to be re-defined. **Recommendations:** Through program assessment, clinic mapping and clinic-based cross training, the integration of TB/HIV care and diagnostic screening is feasible and can improve co-management and case referral.

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114.	<b>TITLE:</b>	VISUAL INSPECTION WITH ACETIC ACID (VIA) FOR CERVICAL CANCER SCREENING IN HIV-INFECTED ZAMBIAN WOMEN.
	<b>Authors:</b>	Sahasrabuddhe V, Parham G, Mwanahamuntu M <i>et al</i>
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, Center for Disease Control and Prevention, University of Zambia, University Teaching Hospital, University of Alabama at Birmingham
	<b>Status:</b>	Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract THPE0193.

**Background:** Cytology-based cervical cancer screening programs have been difficult to sustain in resource-limited settings. New cost-effective tests and protocols for screening HIV-infected and other at-risk women should be evaluated. VIA offers an attractive alternative to cytology as a low-cost, low-tech screening tool that can link screening and treatment in the same clinic visit. We compared the accuracy of VIA versus cytology among HIV-infected women in Lusaka, Zambia.

**Methods:** We screened 150 non-pregnant, consenting HIV-infected Zambian women, using both VIA (performed by nurses trained on-site in Zambia) and liquid cytology using Thin-Prep Pap test (analysed in the US). A composite colposcopic-histopathological diagnosis served as the reference standard. We compared differences in sensitivity, specificity, and predictive values of the tests individually and in combination.

**Results:** The median age of women was 36 years (range 23-49 years) and their mean CD4+ count was 209/ $\mu$ l (S.E.+14.7). The VIA positivity rate was 46% while that of high grade squamous intraepithelial lesions (SIL) or suspected cancer on cytology was 52.7%. VIA had lower sensitivity (73.5% vs. 91.2%, p=0.05) than cytology but comparable specificity (62.1% vs. 58.6%, p=0.5). The specificity of the combination of the two tests (77.6%) was significantly higher than individual test specificities of VIA and cytology (p=0.01 and 0.02

respectively). The corresponding combination sensitivity (70.6%) differed significantly with that of cytology ( $p=0.03$ ) but not with that of VIA ( $p=0.7$ ).

**Conclusions:** Although it had a lower sensitivity than cytology in our study, the comparable specificity makes VIA a useful adjunct test to cytology for reducing the number of false positive results. Reduced loss to follow-up may improve overall program effectiveness of programs incorporating VIA. “See-and-treat” protocols involving VIA-based screening need evaluation in clinical trials for HIV-infected women in resource limited settings.

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115.	<b>TITLE:</b> <b>SCREENING FOR TUBERCULOSIS (TB) IN HIV VOLUNTARY COUNSELING AND TESTING (VCT) SERVICES IN LUSAKA, ZAMBIA.</b> <b>Authors:</b> Jham M, Levy J, Kancheya N <i>et al</i> <b>Year:</b> 2005 <b>Org/Inst:</b> Centre for Infectious Disease Research in Zambia, University of Alabama at Birmingham. <b>Status:</b> Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006 <b>Study Site(s):</b> Lusaka <b>Source:</b> XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract MOKC203.
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**Background:** Zambia faces concurrent TB and HIV epidemics with a high burden (62%) of co-infected patients. These patients have a high rate of mortality and respond optimally to care if identified and treated early. TB screening conducted as part of VCT can serve as an entry point for early TB diagnosis in a high-risk co-infection population.

**Methods:** In October 2005, a TB screening pilot was initiated within VCT services at a primary health clinic in Lusaka. Counsellors ask all clients if they are experiencing respiratory symptoms suggestive of pulmonary TB (PTB). All clients with a positive PTB screen, regardless of HIV test result, are referred and escorted by a VCT staff member to the laboratory for sputum collection and examination. If TB diagnosis is confirmed in HIV infected patients, TB treatment is initiated prior to enrolment in HIV care.

**Results:** HIV positive patients were 4.1 (95% CI 2.9, 5.6) times as likely to have a positive TB screen than HIV negative patients. However, of those patients identified with TB symptoms, HIV negative patients were 20.2 (95% CI 8.0, 131.2) times as likely to have a positive smear as HIV positive patients.

**Conclusions:** In settings of high TB and HIV prevalence, routine PTB screening in VCT centres is feasible and important to identify early the high percentage of respiratory symptomatic patients who otherwise would be missed. In our setting, despite symptom screening in HIV-infected individuals with a high risk of TB, smears yielded very few confirmed TB diagnoses. This suggests a strategy that includes more sensitive TB culture should be prioritized as part of the diagnostic work up for identifying PTB smear-negative co-infected patients.

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116.	<b>TITLE:</b> <b>CLINICAL OUTCOMES AMONG TB/HIV CO-INFECTED PATIENTS ENROLLED IN ANTIRETROVIRAL THERAPY (ART) IN LUSAKA, ZAMBIA.</b> <b>Authors:</b> Reid S, Levy J, Jham M, <i>et al</i> <b>Year:</b> 2004
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<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University of Alabama at Birmingham.
<b>Status:</b>	Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract MOPE0166.

**Background:** Rapid spread of HIV in sub-Saharan Africa has fuelled TB incidence. In Lusaka approximately 30% of HIV patients will develop TB and co-infected patients are believed to have poor clinical outcomes. Rapid ART scale-up has been underway in the public sector since May 2004.

**Methods:** Part of scale-up is development of a computerized patient tracking system, used to collect baseline patient characteristics and track care.

**Results:** Of the 22,961 patients eligible for ART based on clinical or CD4 criteria, 1,527 (6.7%) were taking TB medication at enrolment. Comparison of patients "with TB" compared to those "without TB" demonstrate lower BMI in both males and females ( $p<0.0001$  and  $p<0.0027$  respectively), lower CD4 count (median 101 vs. 123,  $p<0.0001$ ) and lower Haemoglobin ( $p<0.0325$ ). Cox regression was performed among patients with stage III or IV disease on ART to evaluate the risk of death for patients entering the program already on TB therapy, stratified by CD4: < 50, 50-200, and >200. The HR for TB adjusted for anaemia, gender and adherence to ART therapy were 0.88 (95% CI 0.58, 1.34), 0.78 (95% CI 0.53, 1.17), 1.04 (95% CI 0.53, 2.07) respectively. In all CD4 strata TB patients on ART have the same risk of death as non TB patients on ART with stage III and IV disease at 18 months of follow-up.

**Conclusions:** At baseline, co-infected patients on TB therapy have significantly worse clinical profiles than non-TB patients. Despite this, TB patients diagnosed prior to placement on ART seem to have similar survival compared to non-TB patients. However, mortality may have been underestimated in the TB group as TB diagnoses were likely missed due to smear negatives and limited diagnostic capacity and these deaths would be included in the non-TB group. Active case-finding with prompt diagnosis and initiation of TB therapy remain critical in this patient population.

117.	<b>TITLE:</b>	EARLY LESSONS FROM INTEGRATION OF TUBERCULOSIS AND HIV SERVICES IN PRIMARY CARE CENTERS IN LUSAKA, ZAMBIA
	<b>Authors:</b>	Harris JB, Headwind S, Rundles KM <i>et al</i>
	<b>Year:</b>	2005-2007
	<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Alabama at Birmingham
	<b>Status:</b>	Published as manuscript in <i>Int J Tuber Lung Dies</i>
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	<i>Int J Tuber Lung Dies</i>

**Background:** Zambia faces overlapping tuberculosis (TB) and human immunodeficiency virus (HIV) epidemics; however, care for co-infected patients often occurs through separate, vertical programs.

**Objective:** To establish a program to integrate TB and HIV services in Lusaka primary care centres.

**Methods:** In collaboration with the Ministry of Health, TB/HIV integration activities began in December 2005 and expanded to seven health centres by March 2007. Principal activities included: developing staff capacity to manage co-infected patients, implementing HIV testing within TB departments, and establishing referral systems between departments.

**Results:** Using a provider-initiated approach, 2053 TB patients were offered HIV testing. Seventy-seven percent agreed to test and 69% of those tested were HIV-infected. Of these, 59% enrolled into HIV care. The proportion of ART program enrollees who were TB/HIV co-infected increased 38% after program implementation. The median CD4 count among co-infected patients was 161 cells/all with 88% eligible for antiretroviral therapy.

**Conclusion:** Integration of HIV testing and referral services into urban primary care centres identified many co-infected patients and significantly increased the proportion of TB patients among people accessing HIV care. Ongoing challenges include maximizing the number of patients accepting HIV testing and overcoming barriers to enrolment into HIV care.

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118.	<b>TITLE:</b>	<b>CD4 T-CELL COUNT AND HIV-1 INFECTION IN ADULTS WITH UNCOMPLICATED MALARIA</b>
	<b>Authors:</b>	<sup>1</sup> Jean-Pierre Van G, <sup>2</sup> Mulenga M and <sup>3</sup> Kasongot W <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	<sup>1</sup> Institute of Tropical Medicine, Antwerp, Belgium, <sup>2</sup> Tropical Disease Research Center, Ndola, Zambia; <sup>3</sup> University of Antwerp
	<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b>	Ndola
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007

**Methodology:** In Ndola, Zambia, at the health-centre level, we treated 327 non-pregnant adults for confirmed uncomplicated, clinical malaria. We assessed HIV-1 status, CD4 count, and HIV-1 viral load (if HIV-1-infected) at enrolment and at 28 and 45 days after treatment.

**Results:** After successful antimalarial treatment, the median CD4 count at day 28 of follow-up increased from 468 to 811 cells/ $\mu$ L in patients (paired *t* test,  $P<0.001$  for both). CD4 count increment was inversely correlated with CD4 count at day 0 in both HIV-1negative ( $<0.001$ ) and HIV-1 positive patients ( $P=0.03$ ). After successful treatment, the proportion of patients with CD4 counts  $<200/\mu$ L at day 45 decreased from 9.6% to 0% in HIV-1 negative and from 28.7% to 13.2% in HIV-1-positive malaria patients ( $P<0.001$  for both). In patients with detectable but mostly asymptomatic parasitemia, CD4 count and, if HIV-1 infected, viral load at day 45 of follow-up were similar to those observed at enrolment.

**Conclusion:** Interpretation of absolute CD4 count might be biased during or just after a clinical malaria episode. Therefore, in malaria-endemic areas, before taking any decision on the Management of HIV-1-positive individuals, their malaria status should be assessed.

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119.	<b>TITLE:</b>	<b>SCALING-UP HIV/AIDS AND TB HOME-BASED CARE: LESSONS FROM ZAMBIA</b>
	<b>Authors:</b>	Emmanuel F N <sup>1</sup> , John D W <sup>1</sup> , Elisabeth M <sup>2</sup> <i>et al</i>
	<b>Year:</b>	2001

<b>Org/Inst:</b>	<sup>1</sup> Nuffield Institute for Health, University of Leeds, UK, <sup>2</sup> Family Health Trust, Lusaka, Zambia
<b>Status:</b>	Published in the PMID: 7574321 [PubMed - indexed for MEDLINE] Health Policy and Planning; 16(3): 240-247
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	PMID: 7574321 [PubMed - indexed for MEDLINE] Health Policy and Planning; 16(3): 240-247

Home-based care coverage in Africa is currently very low and likely to reduce drastically in the near future. This paper investigates the low coverage of home-based care programmes in Africa and uses two home-based care projects in Zambia as case studies. The very limited involvement of governments in the provision of home-based care services appears to be one of the main reasons behind the low coverage of home-based care in Africa. Governments therefore should provide some form of basic home-based care services and/or strengthen support to other institutions providing home-based care. In order to facilitate governments' involvement in home-based care activities, an analysis of tasks performed by community nurses and volunteers is used to identify tasks that government, missionary or NGO employed nurses may be able to provide without, or with very limited, donor assistance. However, further research and development is needed to develop affordable, feasible and sustainable home care programmes that can be implemented by staff working in government, NGO and missionary health facilities. In addition, innovative strategies are required to establish effective partnerships between the NGO, missionary and government health facilities.

<b>120. TITLE:</b>	<b>LACK OF HEMATOLOGICAL RECOVERY AFTER SUCCESSFUL MALARIA TREATMENT IN HIV-1 INFECTED PATIENTS</b>
<b>Authors:</b>	<sup>1</sup> Jean-Pierre Van G, <sup>2</sup> Mulenga M and <sup>3</sup> Kasongot W <i>et al</i>
<b>Year:</b>	2006
<b>Org/Inst:</b>	<sup>1</sup> Institute of Tropical Medicine, Antwerp, Belgium, <sup>2</sup> Tropical Disease Research Center, Ndola, Zambia; <sup>3</sup> University of Antwerp
<b>Study Site(s):</b>	Ndola
<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Design, setting and Patients:** Between March 2003 and June 2005, a total of 971 non-pregnant adults with non-severe clinical malaria were treated at 4 primary health care centres in Ndola, Zambia and prospectively followed up for 45 days. Data were analysed in a linear regression model.

Main outcome measure (s): Haemoglobin change after successful antimalarial treatment.

**Objective:** To assess the impact of malaria treatment on the haemoglobin in HIV-1 infected adults and according to their degree of immune suppression.

**Results:** HIV-1 infected malaria patients had lower haemoglobin levels than non HIV-1 infected ones (123 g/L vs. 135 g/L;  $P<.001$ ), low CD4 cell count was associated with low haemoglobin (Hb) ( $P=.01$ ). Fourteen days after antimalarial treatment, mean haemoglobin decreased by 4.2 g/L (95% Confidence interval (CI), -5.8 - -2.5; paired t- test,  $P<.0001$ ) in HIV-1 negative patients and by 5.0 g/L (95% CI, -7.2 - -2.8; paired t-test,  $P<.0001$ ) in HIV-1 positive patients. Immune suppression was associated with a lower Hb decrease at day 14 ( $P=.037$ ). Forty five days after successful malaria treatment, mean haemoglobin levels had increased significantly in HIV-1 negative malaria patients (+3.54 g/L ;95% CI, 1.37–5.70;

paired t- test,  $P=.0001$ ) but not in those infected with HIV-1 (+0.68 g/L; 95% CI, -3.75 – 2.39; paired t- test,  $P=.66$ ). The degree of immune suppression ( $P=.88$ ) did not influence haematological recovery.

**Conclusion:** In contrast to non HIV-1 infected individuals, haemoglobin values in HIV-1 infected individuals did not increase after successful antimalarial treatment. As anaemia is a well known prognostic marker of future disease progression or death, malaria preventive measures should be a priority for this vulnerable group.

Trial registry: <http://www.clinicaltrials.gov/>; reference number NCT00304980

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<b>121. TITLE:</b>	<b>FACTORS ASSOCIATED WITH RISKY SEXUAL BEHAVIOUR IN REGARD TO HIV PREVENTION AMONG PERSONS ATTENDING STD CLINIC AT THE UNIVERSITY TEACHING HOSPITAL, LUSAKA</b>
<b>Authors:</b>	Mwangala G. S.K.
<b>Year:</b>	2002
<b>Org/Inst:</b>	The University of Zambia, School of Medicine
<b>Status:</b>	Published
<b>Study Site(s):</b>	University Teaching Hospital, Lusaka
<b>Source:</b>	The University of Zambia, School of Medicine

**The study sought to;** determine the knowledge of HIV and STD among patients with STD; establish the sexual patterns of patients with STD; determine perception of risk to HIV infection among STD patients; determine factors independently associated with risky sexual behaviour.

A cross sectional study of 200 persons who attended a clinic for sexually transmitted diseases (STD) with genital ulcer disease and gonorrhoea was carried out between February and June 2001. This study was done at STD clinic at the University Teaching Hospital in Lusaka, Zambia. Interviews were carried out using a semi-structured questionnaire.

**Results:** Knowledge of HIV transmission and prevention was high (84.0%). A relationship existed between knowledge of STD before the current one and knowledge of relationship between STD and HIV [(OR 68.79, 95% CI (9.57, 140.75)]. A total of 159 (98.0%) patients reported having one sexual partner. Condom use was not associated with the number of sexual partners ( $p=0.350$ ). Results using a logistic regression analysis showed that patients with multiple partnership were more likely to be male, [OR 1.79, 95% CI (1.21, 266] and were more likely to drink alcohol [OR 1.88, 95% CI (1.25, 2.81]. Ninety-five (48.0%) of patients reported that they discussed sex with their partners. Discussion of sex among couples was independently associated with gender. Males were more likely to discuss sex, [OR 1.72, 95% CI (1.26, 2.35)]. Marital status- the single were less likely to discuss sex [OR 0.54, 95% CI (0.33, 0.90)]; while the married were 2.20 times more likely to discuss sex, [OR 2.20, 95% CI (1.44, 3.36)]. Educational status – those with primary education were less likely to discuss sex [OR 0.42, 95% CI (0.26, 0.67)]; while those with secondary education were 1.26 times more likely to discuss sex, [OR 1.26, 95% CI (0.82, 193)]. One hundred and eighty nine (95.0%) of the patients were not aware of their HIV status. The factors independently associated with perception of risk to HIV infection were knowledge of relationship between HIV and STD, [OR 8.78, 95% CI (3.86, 19.97)] and positive history of STD, [OR 4.58, 95% CI (1.90, 11.06)].

High knowledge of HIV and perception of self as being at risk of contracting HIV does not necessarily translate into safer sex practices. Promoting a level ground in communication skills especially discussion of sex in various strata.

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<b>122. TITLE:</b>	<b>FAVOURABLE CLINICAL OUTCOMES AMONG HIV/TB CO-INFECTED PATIENTS IN LUSAKA, ZAMBIA</b>
<b>Authors:</b>	Reid S, Sadoki E and Jham M <i>et al</i>
<b>Year:</b>	2005
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia (CIDRZ), Lusaka, Zambia
<b>Status:</b>	Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** The main objective of the study was to assess the outcome of HIV patients who were co-infected with TB, and those not co-infected with TB.

**Methodology:** A computerized patient tracking system used to collect baseline patient characteristics and track care; At the end of each patient visit, information from paper forms is entered into a centralized database designed to track late patient visits, assist program monitoring, and facilitate reporting to donor agencies; Outcome measures were mean CD4+ cell count change, survival, and treatment failure.

**Results:** Of the 22,961 patients eligible for ART based on clinical or CD4 criteria, 1,527 (6.7%) were taking TB medication at enrolment and are labelled –With TB.” All patients in this cohort were eligible but not on ART. At base line TB/HIV co-infected patient tend to have more advanced HIV disease than those patients without TB. CD4 response to ART is similar in those patients with and without TB.

In Kaplan-Meier analysis, we found that TB patients on ART were more likely to die but not more likely to meet criteria for treatment failure. We then stratified the populations according to WHO stage *and* TB status. Individuals on ART undergoing treatment for pulmonary TB were no more likely to die or fail treatment as others with Stage III disease (without TB infection). Similar trends were seen for individuals with extra-pulmonary TB and others with Stage IV disease.

**Conclusion:** At baseline, co-infected patients have a significantly worse clinical profile than non-TB diagnosed patients. Despite this, TB patients on ART have similar survival compared to non-TB patients with the corresponding WHO stage. Prompt diagnosis and treatment of TB may be a factor in improving prognosis in this group of patients.

Funding Source: The data presented is from abstracts presented at the Toronto HIV Conference 2006 by colleagues from our institution. Funding was through PEPFAR. The research had earlier obtained consent from the Research Ethics Committee and UAB/ IRB.

<b>123. TITLE:</b>	<b>IMMUNODEFICIENCY VIRUS AND MALARIA INTERACTIONS: WHAT DO WE KNOW? WHAT ARE THE PUBLIC HEALTH IMPACTS IN ZAMBIA?</b>
<b>Authors:</b>	Biemba G
<b>Year:</b>	2003
<b>Org/Inst:</b>	Ministry of Health
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	-
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Objective:** To review, critically analyse and summarize the evidence so far on the effect of HIV on malaria and examine evidence for the public health impact of this interaction in Zambia.

**Methodology:** We systematically reviewed studies reported between January 1982 and June 2003 on the interaction between HIV/AIDS and malaria, and analysed routine data from Zambia to study trends in morbidity and mortality attributable to the two conditions. From literature, we compiled point estimates comparing the risk of malaria in HIV positives versus the risk in HIV negatives.

**Results:** Results of reviewed studies show the risk ratio of malaria infection in HIV positives versus HIV negatives to range from 0.7 to 1.3 in children under 13 years and from 1.0 to 3.3 in those over 12 years. Only two studies done in adults showed statistically significant risk ratios, while those done in children showed little or no evidence of a true difference in malaria risk between HIV+ and HIV-negatives. The risk ratio for clinical malaria ranged from 0.7 to 2.05(median 1.4) in children under 13years. Most of these studies observed reduced malaria risk among HIV-infected children, but only one was statistically significant. In those over 12 years, the point estimates for the risk of clinical malaria ranged from a risk ratio of 1.2(95% CI:0.9-1.6) to an adjusted odds ratio of 3.61 (95%CI: 1.04-12.51). A recent cohort study found a rate ratio of 2.8 (95%CI:1.8-4.4) and the odds of having clinical malaria increased with advancing HIV disease( $p=0.0024$ ). Among non-immune South African adults, two studies observed increased risk of severe malaria in HIV+ versus HIV-negatives; but evidence for increased severity and/or reduced response to therapy in areas of stable malaria is not conclusive. Overall, about 17 to 66% of malaria episodes in HIV infected adults ( $>12$ years) may be attributable to HIV infection and about 12 to 45% of these episodes in the study populations may be due to HIV.

HIV infected pregnant women (all parities) were on average 1.7 times at higher risk of malaria infection than HIV-seronegatives (range: 1.5-2.3; 95%CI: 1.61-1.82); and HIV positive primagravida with malaria have a higher risk of delivering low birth weight and pre-term babies than HIV-seronegatives ( $p=0.04$ ,  $p=0.02$  respectively). One randomised clinical trial observed a significantly reduced response to the 2-dose Sulphadoxine-pyramethamine (SP) IPT regimen in preventing placental malaria among HIV-infected pregnant women. The proportion of malaria due to HIV/AIDS in the study populations reviewed(PAF) ranged from 2.2 to 23.5%.

<b>124. TITLE:</b>	ACUTE SEVERE PNEUMONIA IN PREVIOUSLY HEALTH ADULTS. IS IT EARLY SIGN OF HIV, AIDS?
<b>Authors:</b>	Soka N and Mulundu G
<b>Year:</b>	2001-2002
<b>Org/Inst:</b>	University Teaching Hospital, School of Medicine, Lusaka, Zambia
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Methodology:** Patients were enrolled they got admitted to the admission ward during normal on-calls. Features of ALRTI were sought and Patients followed up in E21 and E22. If patients stayed in hospital for more than 24 Hours, they get counselling for HIV as part

of care, and consequently sent to our HIV clinic if found positive. Patients were followed till discharged.

**Setting and Design:** Selection was done as patients get hospitalized to the UTH adult medical admission ward. Using a specific criteria patient underwent full clinical assessment. (History taking and physical examination). They were followed up in the general medical wards (E21 and E22) until discharged. Eligible candidates were 85. This pilot study took place from 2001-2002.

**Criteria:** Inclusion; either sex, 16-45 years. No previous hospitalization. No previous pneumonia, should have acute lower respiratory tract infection feature (cough<2 weeks, fever, dyspnoeic and evidence of Lung disease (bronchial breathing and or reputations). A good response to antibiotic after 3-6 days of treatment. **Exclusion;** If discharged within 24 hours of hospitalization, other co-morbid conditions, Diabetes, Asthma or any other respiratory diseases, pregnancy.

**Results:** 1007 admissions over a period of three months. 409 (40.6%) had a respiratory complaint. Of these 409, 180 (44%) had acute pneumonia in PTB, 14 (35.2%) were a mixture, e.g. pneumonia rule out TB, pneumonia with poor response to antibiotics, were outside the age of interest (45 and above), or were started on TB treatment. 85 (20.8%) had acute pneumonia, with no previous history of the same, and had a good response to antibiotics while on the ward.

Of the 85 patients with possible acute pneumonia 52 (61.2%) of them had HIV infection, of these 3 died (regardless of improving indices like fever).

Radiological picture were not an inclusion criteria. However, 26/85 (30.5%) had consolidation. 39/85 (45.9%). 20/85 (23.6%). Others were a mixture (infiltrates localized or spread, interlobar effusion, vague pacifications).

**Outcome measures:** Improved care for patients with acute severe pneumonia associated with HIV infection. A research proposal was designed to address the issue of pneumonia in early HIV infection.

**Conclusion:** Acute severe (hospitalisable) bacterial pneumonia may be an early presentation of waning immunity due to HIV infection.

Funding sources: None, was a pilot

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<b>125.</b>	<b>TITLE:</b>	CAN TUBERCULOSIS RELAPSE BE PREDICTED?
	<b>Authors:</b>	Chongwe G
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	The University of Zambia School of Medicine
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Five urban clinics in Lusaka
	<b>Source:</b>	The University of Zambia

**Objectives:** The main objectives were to determine the characteristics of TB patients with relapse, identify the risk factors for TB relapse so that we can prevent future episodes.

**Design/setting:** This was a case control study conducted at five urban clinics in Lusaka district. We recruited 184 patients, 92 were patients who had had TB, successfully treated but relapsed (the cases), and these were compared with those who had previously been treated for TB in full but had not relapsed for at least six months (controls).

**Results:** The age distribution between the cases and controls was significantly different ( $p=0.048$ ). Older patients were less likely to relapse than younger patients. No sex difference was observed between the cases and the controls. A positive sputum smear had a high sensitivity in predicting relapse but a low positive predictive value. The sensitivity of DOTS in predicting relapse was relatively high at 70.7 percent though it also had poor

positive predictive value. Having an HIV infection had a sensitivity of 64.1 with lower positive predictive value.

**Conclusions:** HIV infection, sex, area of residence and severity of initial illness were all poor predictors of relapse. Living in overcrowded communities and having an HIV infection are well recognized risk factors for tuberculosis aetiology but they may not be important in predicting which patients are more likely to relapse.

**Recommendations:** We need to do more research into more reliable and cost effective ways of identifying which patients are more likely to relapse and find better ways of preventing relapse. We also need to work towards ensuring that all centres providing tuberculosis services in this country also provide DOTS to sputum positive patients.

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<b>126. TITLE:</b>	<b>A CLINICAL AND PATHOLOGICAL STUDY OF CHILDREN WITH PNEUMOCYSTIS CARINII PNEUMONIA</b>
<b>Authors:</b>	Lishimpi K
<b>Year:</b>	2003
<b>Org/Inst:</b>	The University of Zambia School of Medicine
<b>Status:</b>	Published
<b>Study Site(s):</b>	University Teaching Hospital, Lusaka
<b>Source:</b>	University Teaching Hospital, Lusaka

**Objectives**-To assess the prevalence of PCP in Zambian children dying of respiratory diseases; To collect non invasive samples (oropharyngeal washings) for alternative diagnostic tests such as, Polymerase Chain reaction for identification of *Pneumocystis carinii* deoxyribonucleric Acid (DNA) and find how well this compares with the same test done on DNA extracted from left upper lung, and later correlate with histopathological findings done on lung tissue; To understand the clinical presentation of PCP, its histological findings as compared to PCR for *P.carinii* DNA done on left upper lung extracts; To determine the presence of HIV infection in these children by using Enzyme Linked Immunosorbent Assay (ELISA) on all children above 18 months, and PCR for HIV in children less than 18 months.

**The descriptive study conducted** a clinical –pathological study of 264 deaths from pulmonary disease at the University Teaching Hospital. Post mortem lung material were obtained and subjected to histo-pathological examination, and polymerase chain reaction (PCR) for *Pneumocystis Carinii* Deoxyribonucleric Acid (DNA). From the oropharyngeal washings DNA was extracted and PCR performed to detect the presence of *P.carinii*.

**Results and Conclusion:** Thirty five percent of children aged 1 month to 14 years dying from pneumonia in UTH have PCP and 93.2% of these children are missed clinically.

Out of the children found with PCP, 87.5% were co-infected with HIV. The sero-prevalence for HIV infection in children who had died of pneumonia was 63%. PCP is an AIDS defining event/infection even in Zambian children below the age of one year. At the time of death children found with PCP were younger, age less than 8 months had long duration of difficulties in breathing, tachypnoea and cyanosis when compared to those with bronchopneumonia. However, children with bronchopneumonia had more significant lymphadenopathy and oropharyngeal Candidiasis. PCP can be diagnosed from oropharyngeal washings using PCR.

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<b>127. TITLE:</b>	<b>THE UNMET HEALTH NEEDS OF PLWHA IN MULTI-HEALTH DELIVERY SYSTEMS: A QUALITATIVE STUDY</b>
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**OF MEDICAL PLURALISM IN SELECTED DISTRICTS OF  
ZAMBIA**

**Authors:** <sup>1</sup>Nyirenda A, <sup>2</sup>Torfoss T and <sup>3</sup>Ingstad B  
**Year:** 2004  
**Org/Inst:** <sup>1</sup>Copperbelt Health Education Project (CHEP), Research Advisory Board, Kitwe; Zambia, <sup>2</sup>Norwegian Association of Heart & Lung Patients (LHL) Norway; <sup>3</sup>University of Oslo, General Practice  
**Status:** Published in and Abstract Book, <sup>4th</sup> National Health Research Conference  
**Study Site(s):** Chililabombwe, Lufwanyama, Livingstone, Lusaka, Kitwe and Ndola Districts  
**Source:** Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** The Purpose of the study was to identify, explore, describe and gain an in-depth understanding of the unmet needs of PLWHA and TB patients in the context of multi-service providers in selected districts of Zambia.

**Methodology:** Qualitative study conducted for 5 months(August-December 2004), involving 30 in-depth Interviews of People Living with AIDS and/or co-infected with TB; 10 Focus group discussions involving support group members in purposely selected areas; participant observation of 2 selected male PLWHA for 3 months; a workshop involving various health service providers like medical practitioners, traditional healers, EX-TB Patients and PLWHA to help derive recommendations on improvement of services.

**Results:** While people living with HIV/AIDS and TB patients had access to multiple providers of care and support, the quality of services were clearly not coordinated, making it increasingly difficult for clients to get the most out of them. Traditional healers are one of the single largest careers, yet their services remained less accepted in selected mainstream government managed institutions, hence the lack of formal referrals among systems. Self treatment was very common among PLWHA and TB patients most of whom relied mainly on information from peers and close relations and workmates to make informed choices on what treatment to take. Most remedies used by PLWHA were in form of herbal remedies or drug store purchases. The mere existence of multiple providers and their services did not in itself guarantee adequacy of support to PLWHA. People living with HIV/AIDS who are co-infected with TB were relatively more exposed to greater health-seeking dilemmas, given the challenges of stigma which relates TB with HIV infection.

**128. TITLE: AN ASSESSMENT OF FEMALE ADOLESCENT  
HEALTH SERVICES**

**Authors:** Vwalika B  
**Year:** 2003  
**Org/Inst:** The University of Zambia  
**Status:** Published  
**Study Site(s):** Lusaka  
**Source:** The University of Zambia

Adolescents form a significant portion of Zambia's population and are being viewed as a target group for health messages and services.

Adolescents engage in sexual activities at a very early stage for various reasons. They are therefore exposed to a lot of STIs for which they need to be treated. STIs and especially the lack of treatment for them exposes these adolescents to the deadly HIV and AIDS.

Not all adolescents have access to the health centres for treatment of STIs. In trying to find answers, 397 female adolescents who were attending 8 health centres in Lusaka for a period of 17 days were surveyed. The aim was to determine the level of availability of health services as related to STIs management among female adolescent and also to determine what problems are faced in the investigation, diagnosis and treatment of STI. The findings were that many adolescents failed to access management of STIs for many reasons. Among these were lack of money, poor attitudes from health workers, poor laboratory facilities, drug shortages and lack of privacy.

Because of these problems many female adolescents preferred to have health centres specifically for adolescents. A fulfilling and positive experience in STI management is as important as a good outcome. Most of the factors noted above can be easily improved upon to contribute positively to the adolescents' welfare.

***Strategic objective 11: Strengthen home or community based care and support including access comprehensive palliative care and pain management***

<b>129. TITLE:</b>	<b>INNOVATIONS IN ARV COVERAGE FOR CHILDREN IN ZAMBIA THROUGH THE PALLIATIVE CARE SETTING</b>
<b>Authors:</b>	Meade T <sup>1</sup> , Robertson S. <sup>1</sup> and Mill S. <sup>1</sup> <i>et al</i>
<b>Year:</b>	2005
<b>Org/Inst:</b>	-
<b>Status:</b>	Published; AIDS 2006 - XVI International AIDS Conference: Abstract no. CDB0990
<b>Study Site(s):</b>	Jon Hospice in Lusaka's Kamwala Township
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDB0990

**Issues:** As national ARV programs expand in many sub-Saharan African countries, there is concern that ARV distribution for children is not reaching target levels. Half the world's 1 million HIV-positive children require ARVs; 90% live in sub-Saharan Africa. Fewer than 20,000 children in the region, however, are on ART. In response, a Zambian hospice operates a day-care as part of its palliative and home-based care programs to identify and treat HIV-positive children.

**Description:** Home-based palliative care has existed in Zambia for 30 years, but the overwhelming burden of AIDS led to the establishment of the country first in-patient hospices. Jon Hospice in Lusaka's Kamwala compound is run by Kara Counselling and Training Trust, Zambia's oldest and best known HIV NGO. The hospice operates a day-care for 35 HIV-positive children ages 3-12. Mostly orphans, many of these children had one or both parents die at the hospice. Others are referred by the hospice home-based care workers. Most live with extended family or neighbours who took them in when they became orphaned. Through the day-care, most of these children commenced ART during regular day-care hours.

**Lessons learned:** The majority of children attending Jon Hospice's day-care have stabilized, exhibiting rising CD4 counts and dramatically improved health thanks to ART. The children's marked improvement prompted caretakers and families to come for VCT and treatment and the percentage of in-patients in the hospice taking ARVs has risen from

less than 10% to more than 50% within the last year. This rise can also be attributed to increased availability of ARVs in Zambia.

**Recommendations:** The Palliative Care Association of Zambia (PCAZ) recognizes that associating a day-care with in-patient hospice and home-based care programs can increase the percentage of OVC able to successfully access ART when appropriate. These children would otherwise likely have gone untreated because of their disadvantaged situations.

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<b>130. TITLE:</b>	<b>CARING FOR HEALTH WORKERS: ADDRESSING PSYCHOSOCIAL BURDEN OF HIV/AIDS ON HEALTH PERSONNEL IN ZAMBIA</b>
<b>Authors:</b>	Kiragu K, Rutenberg N and Eerens P, <i>et al</i>
<b>Year:</b>	2004-2006
<b>Status:</b>	Published
<b>Org/ Inst:</b>	HORIZONS
<b>Study Site(s):</b>	Southern and Copperbelt Provinces
<b>Source:</b>	University Teaching Hospital

This study is examining the HIV/AIDS needs of hospital workers in Zambia. In 2004, baseline data were collected from 1,424 employees in five large hospitals in two Zambian provinces. Structured questionnaires were administered to a sample comprising physicians, clinical officers, nurses, paramedical staff, medical training students, and administrative and support staff. Focus group discussions were also conducted with similar cadres of hospital personnel. A provider-centered workplace intervention started in August 2004 and is ongoing. Follow-up data were collected in March 2006 from 1,461 employees in the same hospitals, using the same procedures as at baseline.

Hospital workers face potential HIV exposure at work but have limited awareness about post-exposure prophylaxis (PEP). Hospital workers are stressed from caring for HIV patients at work and at home. Intimate partner violence is a problem for many female hospital workers. Hospital workers report multiple partnerships accompanied by limited use of protection. “Trust” is a major reason why condoms are not used, even among respondents with multiple partners. Even among those with multiple partners, there is limited desire to use condoms. The level of HIV testing among health workers and their partners is low. Those respondents with multiple partners are no more likely to have been tested than those with one partner.

Preliminary analysis shows that the intervention was associated with increased awareness of PEP, access to condoms, and improved perceptions of management’s role in helping hospital workers address HIV/AIDS. Hospitals are not often seen as a workplace in the same sense as factories and farms, yet they are at the crux of managing the HIV epidemic. A country with a weak and incapacitated hospital work force is unlikely to deal effectively with HIV. The results suggest that both clinical and non-clinical staff in Zambian hospitals is uninformed about critical components of HIV prevention and many also engage in behaviours that put them at risk for HIV, pointing to the need for HIV/AIDS workplace programs for hospital workers. Interventions at hospitals are feasible but should be designed to fit staff members' busy work schedules.

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<b>131. TITLE:</b>	<b>DETERMINANTS OF HOSPICE USE AMONG TERMINALLY ILL PATIENTS IN LUSAKA ZAMBIA: A HIGH HIV PREVALENCE AND RESOURCE LIMITED SETTING</b>
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**Authors:** Nota A<sup>1</sup>, Shalunga C<sup>2</sup>  
**Year:** 2003  
**Org/Inst:** <sup>1</sup>Zambart Project, Lusaka, Zambia; <sup>2</sup>Jon Hospice  
**Status:** Published in the XV International AIDS Conference: Abstract no. D10121  
**Study Site(s):** Lusaka  
**Source:** The XV International AIDS Conference: Abstract no. D10121

**Issues:** Hospice services have been available in Zambia for some years. The health system in Zambia is overburdened by the TB/HIV dual threat. Currently few terminally ill patients are able to access and benefit from these services. This observational study identifies determinants of hospice service uptake and factors leading to a lack of use of these services.

**Description:** A study done by Zambart project in 2001 at Jon Hospice in Lusaka, Zambia revealed that HBC centres refer patients who have no carers at home and also to relieve the families the burden of looking after patients in disadvantaged communities. Hospitals refer patients as a way of decongesting their wards. The role of the hospice as a place where terminally ill patients can choose as a place of end-of-life care has changed to that of diagnosing and caring for patients who do not want to be seen in public hospitals. Terminally ill patients who require intensive nursing care are disadvantaged. Providing nursing care to these patients is only possible at home through family care-givers.

**Conclusions:** Hospice services lack proper screening and diagnostic facilities like laboratory and x-ray. The difficulty faced by terminally ill patients in accessing care at public hospitals, means that they end up at the hospice before a diagnosis is made. The overwhelmed hospitals in a bid to reserve bed capacity refer terminally ill patients to the hospice. This has led to overloading and overstretching of hospice meagre resources. To improve hospice usage and deal with impediments, involve the community TB/HIV treatment advocates in the awareness campaigns for proper hospice usage through outreach activities. Forming support networks for informal and family care-givers will help reduce the effects of emotional stress. Building and strengthening the human resource capacity will motivate staff as most of them work on voluntary basis.

132. **TITLE:** COPING STRATEGIES OF FAMILIES LIVING WITH INDIVIDUALS SUFFERING FROM HIV/AIDS: A CASE STUDY OF KASAMA URBAN AND PERI-URBAN

**Authors:** Muulu E  
**Year:** 2003  
**Org/Inst:** The University of Zambia  
**Status:** Published  
**Study Site(s):** Kasama urban and peri-urban in Northern Province  
**Source:** The University of Zambia

**Objective:** to determine the problems and the coping strategies of families living with individuals suffering from HIV/AIDS.

**Design:** Cross sectional study and Focus Group Discussion (FGD). Setting: Kasama urban and peri-urban in the Northern Province of Zambia. Subjects: The subjects consisted of 106 caregivers randomly selected from families living with individuals suffering from HIV/AIDS who were under home based care programme. Of these caregivers 56 were drawn from the urban area and the rest from peri-urban. The FGD was composed of 10 participants who were neighbours to the families living with HIV/AIDS patients.

**Main Outcome:** Availability of resources that enable families cope with the care of HIV/AIDS patients, knowledge about the disease, and skill of care for HIV/AIDS patient.  
**Conclusion:** Lack of resources such as food, medicines, money, materials and knowledge about the disease and skill of care made it difficult for families living with HIV/AIDS patients to cope with their care.

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133. **TITLE:** **SECURITY OF WIDOWS' ACCESS TO LAND IN THE ERA OF HIV/AIDS: PANEL SURVEY EVIDENCE FROM ZAMBIA**
- Authors:** Chapoto A and Jayne T. S.
- Year:** 2006
- Org/Inst:** Department of Agricultural Economics, Michigan State University
- Status:** Published by Department of Agricultural Economics, Michigan State University in its series  
[International Development Collaborative Working Papers](#)  
with number ZM-FSRP-WP-19.
- Study Site(s):** -
- Source:** <http://www.aec.msu.edu/fs2/papers/order.htm>

Beyond the obvious catastrophic effects of the HIV/AIDS pandemic on mortality, demographic changes, and the suffering of individuals and their families, we are still only learning about the complex longer-term effects of the pandemic on poverty and vulnerability. For example, the HIV/AIDS pandemic has substantially increased the number of widow-headed households in Africa. A huge number of conceptual and qualitative studies highlight gender inequalities in property rights, and the difficulties that widows and their dependents face in retaining access to land after the death of their husbands. HIV/AIDS has undoubtedly exacerbated such problems. However, there remains limited quantitative evidence using representative survey data on the extent to which widows lose their rights to land after the death of their husbands, whether they lose all or part of the land they were formerly controlling, and whether there are certain characteristics of the widow, her deceased husband, and/or her household that influence the likelihood of her losing land rights. It is highly possible that government programs designed to provide a safety net to vulnerable groups may not reach their potential if they ignore gender dimensions of local institutions and property rights.

***Strategic objective 12: Support the utilization of alternative and/or traditional medicine which have scientifically demonstrated efficacy***

134. **TITLE:** **TRADITIONAL LEADERS AS KEY PLAYERS IN COMBATING HIV/AIDS A CASE BY WOMEN FOR CHANGE (WFC) WORK WITH THE TRADITIONAL LEADERS IN ZAMBIA**
- Authors:** Sikazwe E
- Status:** Published in the XV International AIDS Conference: Abstract no. E10309
- Year:** 2003
- Org/Inst:** Women for Change
- Study Site(s):** National
- Source:** The XV International AIDS Conference: Abstract no. E10309

**Introduction:** Despite being closer to the people, Traditional Leaders have been left out of development initiatives such as the fight against HIV/AIDS.

**Description:** Since 2000, WFC has been organizing workshops for Traditional Leaders on HIV/AIDS, Gender, Human Rights and governance issues through out the Zambia. WFC facilitated the formation of the National Royal Foundation as well as provincial foundations as a forum for traditional leaders to share best practices in supporting family units that have been affected by HIV/AIDS as one of the objectives. The Southern Africa Development Community (SADC) Council of Traditional Leaders has been formed to lobby regional and international bodies on issues of significance such as the fight against the HIV/AIDS pandemic.

**Lessons Learnt:** As a result of the WFC program, Traditional Leaders are now being recognized as vital stakeholders in the fight against HIV/AIDS, gender imbalances, negative cultural practices and beliefs and human rights violations and are increasingly getting involved in development initiatives in the nation. Recently, the Zambia Integrated Health Programme (ZIHP) organized an HIV/AIDS workshop for 200 Traditional Leaders to put them at the Centre of all the initiatives aimed at combating HIV/AIDS.

**Conclusion:** Working with Traditional Leaders as key players in the fight against HIV/AIDS is one of the sure ways of combating the pandemic by challenging the negative cultural practices that perpetuate the spread of HIV/AIDS, gender imbalances and human rights violations. <BR>

**Recommendations:** Institutions involved in HIV/AIDS, gender, poverty and human rights issues to work with Traditional Leaders in order to put them at the centre of the fight against HIV/AIDS and involve them in the regional, national policy formulation and implementation processes.

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<b>135. TITLE:</b>	<b>A POLICY ANALYSIS FOR INTERVENTIONS TO BRIDGE THE GAP BETWEEN TRADITIONAL HEALERS AND THE PUBLIC SECTOR FOR HIV/AIDS CONTROL IN UGANDA AND ZAMBIA</b>
<b>Authors:</b>	Brugha R, Oliff M <sup>2</sup> , Vongo R <sup>3</sup> , <i>et al</i>
<b>Year:</b>	2002-2004
<b>Org/Inst:</b>	<sup>3</sup> Traditional Healers and Practitioners Association
<b>Status:</b>	Published in an Abstract Book for the <i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. THAE0202
<b>Study Site(s):</b>	Zambia and Uganda
<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. THAE0202

**Background:** Traditional Health Practitioners (THPs) are a major untapped resource for HIV prevention, care and support, and also a potential referral network for scaling up HIV/AIDS/STI control services in sub-Saharan Africa. An objective of the Bridging Gaps Project, Uganda and Zambia 2002-06, was to assess readiness and obstacles in the national policy environment to different forms of collaborations between THPs and Biomedical Health Practitioners (BHPs).

**Methodology:** Interviews were conducted with 51 national policy makers in two stages across the two countries, 2002-04: an average of 13 interviews per stage. Initial exploratory interviews were used to introduce the project; identify and collect reports on relevant policy issues; and to assess potential policy obstacles and stakeholder support for collaboration. Semi-structured follow-up interviews assessed risks, challenges, possible resistance and

approaches for managing stakeholders. Interviews were transcribed and analysed thematically.

**Results:** In both countries efforts to draft and enact new policies and legislation, as a framework for collaboration, have lacked momentum. Training of THPs and information exchange between the sectors are generally acceptable. However, official cross-referrals, i.e. where BHPs openly refer patients to THPs, have raised ethical concerns, encountered regulatory obstacles and are opposed by medical professional councils. Zambia has a broadly representative THP association with which Government can negotiate, whereas Uganda has many rival associations. A recent Public Private Partnership policy development may reinvigorate progress in Uganda. Major health sector reforms in Zambia and political uncertainty in Uganda are obstacles to imminent progress.

**Conclusions:** Implementation of a policy tracking component, in parallel to designing, implementing and evaluating a new HIV intervention, is comparatively simple and should be routine in major intervention research. Findings from the Bridging Gaps intervention will encounter greatly changed global and national policy environments, since its 2002 inception, with opportunities from new global funds but also residual policy-level obstacles to overcome.

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136.	<b>TITLE:</b>	TRADITIONAL HEALERS CONTRIBUTING TO HIV/AIDS PREVENTION THROUGH CULTURAL CHANGE AND ADAPTATION - ZAMBIA CASE STUDY
	<b>Authors:</b>	Sichinga B.
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Traditional Healers and Practitioners Association of Zambia (THPAZ)
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0418
	<b>Study Site(s):</b> -	
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0418

**Description:** An account of cultural practices from the part of sub-Saharan Africa is gathered through the authors' interaction with Traditional leaders in the past 2 years he works as facilitator of THPAZ. The aim of the study is to derive all the dangerous practices in this part of the continent as admittedly given by THs. A full account of such practices is documented.

**Lessons learned:** The author accounts on how the healers resolve to prevent HIV infections on account of problems identified. Best practices approach are adopted and further incorporated in the ethical code of conduct for practitioners affiliated to THPAZ

**Issues:** Certain traditions that were adaptive way back may today carry serious health risks with respect to HIV/STI transmission. "We need to change our culture or our culture will die". Traditional Health practitioners are well known and highly considered to be the custodians of our culture apart from the heritage in IKH. The traditional Health practitioners Association of Zambia THPAZ, a national NGO constituting 40,000 Herbalists, faith/spiritualists, Traditional Birth Attendants and Diviners has taken up the challenge of educating THs on AIDS and associated cultural factors. Traditional healers trained about AIDS can help better and join efforts for HIV Prevention.

**Recommendations:** Apart from the success story of how healers are coping up to striking balance between the long time cultural practices they could love to maintain and the HIV/AIDS they need to prevent, the healers provide for creative suggestions to adapt

harmful cultural practices, and become advocates of safe alternative. The author further looks at the healers Association limits in enforcing the best practice methods the adopt in relation to government policy on TM, giving possible ways needed to engage healers rather than alienate them when it comes to preventing HIV through adaptation of bad cultural values and building on aspects of culture that are beneficial.

### ***Strategic objective 13: Promote appropriate nutrition and positive living for PLHAs***

<b>137. TITLE:</b>	<b>A PILOT RANDOMIZED TRIAL OF NUTRITIONAL SUPPLEMENTATION IN FOOD INSECURE PATIENTS RECEIVING ANTIRETROVIRAL THERAPY (ART) IN ZAMBIA</b>
<b>Authors:</b>	Megazzini K, Washington S, Sinkala M, <i>et al</i>
<b>Year:</b>	2005
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, World Food Programme, University of Zambia, University Teaching Hospital, University of Alabama at Birmingham.
<b>Status:</b>	Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract MOAB0401.

**Background:** In many parts of sub-Saharan Africa, where the need for ART is most urgent, there is also widespread hunger. Whether food supplementation can improve clinical and adherence outcomes of food insecure populations on ART has been widely debated, but not yet tested.

**Methods:** In the context of a home-based adherence support program attached to 8 government clinics in Lusaka, we randomly assigned 4 clinics to provide a monthly household food ration (micronutrient-fortified corn-soya blend, from World Food Programme) to food insecure patients starting ART; 4 clinics served as controls. Weight and CD4+ change were measured at 6 and 12 months. Adherence was assessed by timeliness of pharmacy visits. **Results:** At baseline, the median age, BMI, CD4+ count, WHO stage, haemoglobin, or gender distribution did not differ significantly between 375 food recipients versus 161 non-recipients. For those receiving food, median number of rations received was 9 (IQR: 6-10); median time between starting ART and first ration was 70 days (IQR: 44-125). We observed negligible differences in weight gain (kg) at 6 months (+5.6 vs. +5.0; p=0.48) and 12 months (+6.2 vs. +5.5; p=0.44) between food recipients and non-recipients. However, food recipients had a substantially greater increase in CD4+ count at 12 months than did non-recipients (+185 vs. +113; p=0.017). The mean number of days late for pharmacy visits per month was lower among food recipients versus non-recipients (2.4 vs. 3.4; p=0.008). Both the CD4+ and adherence findings remained statistically significant in multivariate analyses adjusting for sex, WHO Stage, and BMI at entry.

**Conclusion:** In this pilot study, a monthly household food ration for food insecure patients commencing ART improved adherence by 40% and resulted in a better CD4+ response at 12 months of therapy. Further study is warranted of food supplementation as an adjunct to ART in food insecure patients.

<b>138. TITLE:</b>	<b>A WORLD FOOD PROGRAM DONATION TO THE MTCT PLUS FAMILY ARV CENTER AT CHELSTONE CLINIC IN LUSAKA, ZAMBIA</b>
<b>Authors:</b>	McFarlane Y, Sinkala M, Luhanga D <i>et al</i>
<b>Year:</b>	2003
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health
<b>Status:</b>	Published in the abstract book of the XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004; Abstract TuPe5285.
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	XV International AIDS Conference in Bangkok, Thailand, July 11-16, 2004; Abstract WePeE6761.

**Issue:** With >80% of people in Zambia living in abject poverty and nearly 20% infected with HIV, the interface of protein-energy malnutrition and AIDS is a serious concern. Since nutrition is paramount to good health and a key component to effective long-term care, donation of food supplements to HIV-infected patients should improve general health and ability to adhere to ARV regimens.

**Description:** In April 2003 we began a family-based antiretroviral treatment (ART) program in the Lusaka District. From the beginning the World Food Programme (WFP) donated food supplements to enrolled patients. All enrollees undergo economic and nutritional assessment at enrolment, which includes a home visit and questions related to food security. All enrolled women (88) receive a family ration of corn-soya blend (average 6kg). 30 women, most of whom are unemployed and divorced, widowed, or abandoned, receive additional supplements of maize meal, beans, and cooking oil. Donations are continuous. All patients receive nutritional counselling at each visit. Food is generally distributed monthly but some patients receive it biweekly. Nutritional need is great: even with the supplement 20% of patients report they do not have enough to eat at least 1x/week and 90% run out of food completely at least 1x/month.

**Lessons Learned:** Food availability and nutritional supplementation for vulnerable HIV-infected individuals is an important adjunct to long-term care. This pilot program is highly acceptable to its participants and non-stigmatising based on community feedback. Counsellors feel it helps stabilize patients' home situations and is a motivation in patient adherence to care and return for follow-up.

**Recommendation:** Food supplementation and donations programs such as this are feasible, acceptable to participants, and have a place in long-term HIV care in resource-poor settings. As the expansion of ART programs continue, food aid programs should be incorporated as a major therapeutic component.

### **3.3 THEME III. MITIGATING THE SOCIO-ECONOMIC IMPACT OF HIV AND AIDS**

The overall objective under the theme of **Mitigating the Socio-economic Impact of HIV and AIDS** is to provide improved social support services for those made vulnerable from the socio-economic effects of the HIV and AIDS crisis such as orphans and vulnerable children, PLHA and their caregivers/families. Strategic objectives under this theme are as follows:

- i. Protect and provide support for orphans and vulnerable children
- ii. Provide social protection for people made vulnerable from the effects of HIV and AIDS
- iii. Promote programmes of food security and income/ livelihood generation for PLHAs and their caregivers/families

This section consists of abstracts that address the fore-going strategic objectives

#### ***Strategic objective 14: Protect and provide support for orphans and vulnerable children***

<b>139.</b>	<b>TITLE:</b>	<b>PSYCHOSOCIAL SUPPORT (PSS) FOR CHILDREN AND CAREGIVERS AFFECTED BY HIV/AIDS, POVERTY AND VIOLENCE.</b>
	<b>Authors:</b>	Mudenda O. S, Ngoma K.
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	Regional Psychosocial support Initiative (REPSSI)
	<b>Status:</b>	Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b> -	
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** To enhance and scale up existing workable psychosocial support programmes, activities and services to children and caregivers affected by HIV/AIDS, poverty, abuse and violence in the communities; To support and encourage participation of orphans and vulnerable children towards increased resilience, social stability and coping skills; To explore the different definitions of PSS and share the social benefits associated with the PSS package; To facilitate a sustainable holistic approach towards mitigating the negative effects of HIV/AIDS. This enables families to speak openly and explicitly about illness, death and dying.

**Methodology:** Structured in-depth oral/verbal interviews, focus group discussions and feedback reports; Story telling, traditional games, poems, role-plays and drawings by orphans and vulnerable children (OVCs); Video documentaries, literature materials, lectures, debates, simulations, case studies and life skills activities; Capacity building workshops, counselling, advocacy and lobbying;

**Results:** More than 60% of recognized orphans and vulnerable children (OVCs) programmes in the country have integrated practical psychosocial support into their programmes; The revised national children's policy has psychosocial support and child counselling as an integrated component; 250 Psychosocial support trainers and child counsellors trained with a ripple effect of over 250,000 children receiving psychosocial support (PSS) assistance directly through individuals, household families, communities and partner networks countrywide; Of the 50 households surveyed, 70% of the respondents between the ages of 6-15 years agreed that either their parents or guardians at one time have talked to them about HI/AIDS. An indicator that parents and guardians are now able to talk openly and explicitly about HIV/AIDS, illness, death and dying.

**Conclusion:** Psychosocial support is a sustainable essential care and support package. This package ranges from purely psychosocial support to the social measures needed to create an environment in which those affected by HIV/AIDS, poverty, abuse and violence can cope and thrive. It is a child-centered tool whose holistic approach makes it an essential element for meaningful and positive human development. It is the appropriate response at each level of the ‘tower of stability’ towards increased resilience, social stability, security and coping skills of both male and female children affected by AIDS.

Funding Sources: The Swiss Agency for Development and Cooperation (SDC), Swedish International Development Agency (SIDA), Novartis Foundation for sustainable Development (NFSD).

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140.	<b>TITLE:</b>	<b>AN ASSESSMENT OF THE IMPACT OF PARTNERSHIP IN EDUCATIONAL PROVISION TO VULNERABLE HIV/AIDS-AFFECTED CHILDREN IN CHONGWE DISTRICT</b>
	<b>Authors:</b>	Daka H. S.
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	The University of Zambia
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Chongwe
	<b>Source:</b>	The University of Zambia

**The findings** of the study revealed that partnership in educational provision to vulnerable HIV/AIDS-affected children had a positive impact. The partners contributed to nutrition, health care, shelter and clothing of the vulnerable children, motivating them to continue with education.

The guardians and Orphans and Vulnerable Children (OVC) cited lack of provision of life-skills and psycho-social care. Bad morals like beer drinking by boys and early involvements in sexual relations by girls were things that contributed to school dropout.

Poor implementation of government policy was also found to be affecting vulnerable children's access to education. This was evidenced by unfulfilled promises, e.g. vulnerable children were not a priority in as far as the distribution of education materials and enrolments are concerned, even if written policy stated so. There was also government's failure to distribute educational materials to basic schools.

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141.	<b>TITLE:</b>	<b>ORPHANED AND VULNERABLE CHILDREN IN ZAMBIA: THE IMPACT OF THE HIV/AIDS EPIDEMIC ON BASIC EDUCATION FOR CHILDREN AT RISK</b>
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**Authors:** Robson S and Kanyanta B. S  
**Year:** 2007  
**Org/Inst:** Affiliated to University of Newcastle upon Tyne, UK  
**Status:** Published  
**Study Site(s):** Copperbelt Province  
**Source:** University of Newcastle

**Purpose:** This study explored staff and student perceptions of the impact of the HIV/AIDS epidemic on the education of affected children in high-prevalence districts of the Copperbelt province of Zambia. The impact of the epidemic on student enrolment, attendance and completion rates, and on the quality of the learning experience, was investigated.

**Programme description and sample** The Ministry of Education assisted with the selection of districts in the Copperbelt Province with the highest prevalence of HIV/AIDS (34% to 39%). Four government schools with the highest HIV/AIDS prevalence rates and two community schools in impoverished communities were selected.

**Design and methods:** Statistical data from each school were made available. Six focus groups were held with District Education Board Personnel, NUT officials and the Copperbelt Special Education Standards Officer. Six interviews were held with school management teams. A total of 72 teachers and 64 students responded to questionnaires; 36 students also took part in four focus groups, each involving gender balanced groups of six to eight students from grades 4-8.

**Results:** The study provides information on the impact of the epidemic on basic education that has not previously been documented in Zambia and may assist the strategic planning and management of basic schools. A positive outcome of this study was that students, teachers and other professionals freely discussed issues concerning HIV/AIDS and its impact on education in a context where such issues are usually met with silence or denial.

**Conclusions:** The challenge for the Zambian Ministry of Education and the international community is not only to provide the right to basic education, but also to strengthen schools as inclusive and supportive communities. For students, this might focus on provision of alternative and more flexible opportunities for participation and learning, access to health and life skills education and appropriate counselling and support. For teachers, professional development opportunities to support the management of large classes and curriculum development - e.g. in the areas of life skills and vocational skills - are implicated.

**142. TITLE:** **ORPHANED AND VULNERABLE CHILDREN IN ZAMBIA: THE IMPACT OF THE HIV/AIDS EPIDEMIC ON BASIC EDUCATION FOR CHILDREN AT RISK**

**Authors:** Robson S and Sylvester K. B  
**Year:** 2007  
**Org/Inst:** Ministry of Education  
**Status:** Published in Educational Research, v49 n3 p259-272 Sep 2007  
                   by Taylor & Francis, Ltd. 325 Chestnut Street Suite 800,  
                   Philadelphia, PA 19106.  
**Study Site(s):** Copperbelt Province  
**Source:** Web site: <http://www.tandf.co.uk/journals/default.html>

**Background:** There is an emerging corpus of work on the impact of the HIV/AIDS epidemic on education in sub-Saharan Africa. This mainly employs demographic models to make projections of student enrolments and teacher requirements. However, there is a

paucity of research in basic schools to examine the experiences of AIDS-affected teachers and students.

**Purpose:** This study explored staff and student perceptions of the impact of the HIV/AIDS epidemic on the education of affected children in high-prevalence districts of the Copperbelt province of Zambia. The impact of the epidemic on student enrolment, attendance and completion rates, and on the quality of the learning experience, was investigated.

**Programme description and sample:** The Ministry of Education assisted with the selection of districts in the Copperbelt Province with the highest prevalence of HIV/AIDS (34% to 39%). Four government schools with the highest HIV/AIDS prevalence rates and two community schools in impoverished communities were selected.

**Design and methods:** Statistical data from each school were made available. Six focus groups were held with District Education Board Personnel, NUT officials and the Copperbelt Special Education Standards Officer. Six interviews were held with school management teams. A total of 72 teachers and 64 students responded to questionnaires; 36 students also took part in four focus groups, each involving gender balanced groups of six to eight students from grades 4-8.

**Results:** The study provides information on the impact of the epidemic on basic education that has not previously been documented in Zambia and may assist the strategic planning and management of basic schools. A positive outcome of this study was that students, teachers and other professionals freely discussed issues concerning HIV/AIDS and its impact on education in a context where such issues are usually met with silence or denial.

**Conclusions:** The challenge for the Zambian Ministry of Education and the international community is not only to provide the right to basic education, but also to strengthen schools as inclusive and supportive communities. For students, this might focus on provision of alternative and more flexible opportunities for participation and learning, access to health and life skills education and appropriate counselling and support. For teachers, professional development opportunities to support the management of large classes and curriculum development--e.g. in the areas of life skills and vocational skills-are implicated.

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143.	<b>TITLE:</b>	<b>RESEARCH ON WHETHER STREET CHILDREN CAN BE RECONCILED BACK TO SOCIETY</b>
	<b>Authors:</b>	Lungu J. N
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	Youth Forum Zambia
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	Youth Forum Zambia

**Issues:-** According to 1998 Living Conditions and Monitoring survey, 850,000 children are orphaned in Zambia -Children on the Brink Estimated that by 2002,Zambia would have 1.2million orphans. Most of these orphans are a result of parents dieing of HIV/AIDS. - According to UNICEF 90,000 orphans in Zambia have simply been abandoned or fend for themselves.

**Description:** -A Research conducted in Zambia ,Central Africa march 2003 to find out whether children from the street can be reconciled back to society or institutionalized. Shadreck and Mwaba aged 12 and 13respectively, where taken from the street and placed in a home for about 9 months in a project called OVC Help Initiative. The boys spent more than 2 years on the street and the Ministry Of Community where notified about the project. -The boys where provided with basic necessities including basic education.

**Lessons learned:** Observations During First week. -Boys where dirty, had lice, most often refused to bath. -Abusive language, fights with friends, lies, isolation. -Could not read nor write.

Observations: After Six Months.

- Able to read and write simple words. -Bathed regularly even without being told
- Stopped telling lies and were obedient. -Social, attended activities like church, sports etc. - Developed initiative, innovation like gardening, repair of gadgets without being taught. -Love and acceptance key to rehabilitating children from the streets. Mwaba and Shaderick now living with an orphanage run by the Anglican Church and are a clear testimony that street children can be rehabilitated and reconciled back to society.

**Recommendations:** -More child -friendly transit-rehabilitation centres should be established. -Systems to identify and relocate street children early enough. -Laws protecting children from abuse should be strengthened. -More political will from Governments.

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144.	TITLE:	<b>IT TAKES A VILLAGE TO RAISE A CHILD: COMMUNITY RESPONSE TO HIV/AIDS AND PLIGHT OF ORPHAN</b>
	Authors:	Kawilila S
	Year:	2004
	Org/Inst:	Prison Fellowship Zambia, Chingola, Zambia
	Status:	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0636
	Study Site(s):	Chingola
	Source:	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0636

**Issues:** Zambia ranks as the world 14th poorest nations and has Africa 6th highest HIV/AIDS prevalence. Children in Zambia are being crushed by HIV/AIDS. Orphans are sick, suffering cruel deprivations and are frightened. It was the responsibility of the affected community to mobilize resources towards creating supportive and coping mechanisms required to address psychosocial and economic needs. Unfortunately, due to stigmatisation it isn't the case with HIV/AIDS.

**Description:** Chingola Orphan Care project, whose mandate is to strengthen community partnership in empowering of Orphans and vulnerable children, is facilitating capacity building in Chingola. The project has trained and formed. Orphan Care committees to implement the activities which benefit children. The local people work side by side and inspire each other to address the impact of HIV/AIDS. Chingola Orphan Care role is to provide household support to meet the material, educational and emotional needs of the children. We also assist to develop strong community leadership, fostering accountability and transparency.

**Lessons learned:** - Problems are best addressed when the community is involved to develop their own solutions. Children who are cared by families within communities do thrive more than those in institutions; they receive more consistent care, develop better social and emotional relationships and form a strong self-image. The community, after implementing its own activity develops critical capacities to be able to carry on and protect the children in the face of HIV/AIDS.

**Recommendations:** Community empowerment process should allow communities to implement activities on their own.

It is essential to respect local leadership and community ownership if communities are to develop the capacity to meet their own needs.

Investing in grass root projects is one of the most effective ways in the battle against HIV/AIDS.

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<b>145.</b>	<b>TITLE:</b>	<b>INSTITUTIONAL RESPONSES TO HIV/AIDS PREVENTION AND CONTROL AMONG CHILDREN ENGAGED IN CHILD LABOUR: THE CASE OF LUSAKA.</b>
	<b>Authors:</b>	Tembo R.
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	The University of Zambia
	<b>Status:</b>	Published
	<b>Location:</b>	Lusaka
	<b>Study Site(s):</b>	University of Zambia
	<b>Sources:</b>	The University of Zambia

The purpose of this study was to explore the range and scope of policies, funding, and programmes on HIV/AIDS prevention and control for children involved in child labour. To that end Government, NGOs and CBOs responsible for children and youth welfare were contacted.

The study was conducted in Lusaka. The research used qualitative methods to obtain data from the various sources. The respondents were purposively selected because of their stakeholder status in the child welfare sector or on issues relating to HIV/AIDS. In addition, in a form of snowball sampling, the service providers were asked at the time of the interview if they knew of any other organisation providing similar services. A Questionnaire was designed to guide the process of in-depth interviews. The study found that while most of the organisations reported having HIV/AIDS awareness programmes for OVC in general, prevention for child labourers receives a secondary response.

It was noted also that save for a few organisations, most organisations contacted do not have clear mandates, personnel and budgets to carry out HIV/AIDS promotion and prevention activities for child labourers. The study has also established that although a number of organisations are assisting OVC on issues related to HIV/AIDS, they reach only a small segment of thousands of child labourers.

The study also discovered that although some formal and informal mechanisms exist to share experiences, current responses to HIV/AIDS prevention for child labourers remains largely fragmented. Lessons can, however, be learned from project SCOPE/OVC's efforts to strengthen District Coordinating Committees, and through them, more local counterparts. Hence there is need for a more thorough and in-depth survey of all organisations involved in HIV/AIDS prevention in the country. A number of recommendations are made on improving Institutional response to the HIV/AIDS prevention on child labourers in the Country.

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<b>146.</b>	<b>TITLE:</b>	<b>EQUIPPING COMMUNITIES FOR LONG TERM CARE AND SUPPORT OF OVC AND FAMILIES IMPACTED BY HIV/AIDS: LESSONS LEARNED IN DEVELOPING AND SCALING UP A COMMUNITY CARE COALITION MODEL IN AFRICA</b>
	<b>Authors:</b>	Jere F.
	<b>Year:</b>	-
	<b>Org/Inst:</b>	World Vision (WV)

<b>Status:</b>	Published in the AIDS 2006 – XVI International AIDS Conference: Abstract no. CDD0753
<b>Study Site(s):</b>	Zambia and Uganda
<b>Source:</b>	AIDS 2006 – XVI International AIDS Conference: Abstract no. CDD0753

**Issues:** With the increasing numbers of orphans and vulnerable children (OVC) in Africa, World Vision (WV) has scaled up care and support in Eastern and Southern Africa. WV recognizes that short-term relief and service provision strategies are not adequate to address the large-scale, long-term, multi-sectoral OVC crisis generated by the HIV and AIDS pandemic. More sustainable and community owned models are required. To scale up support for OVC, WV is implementing a development oriented community led OVC strategy which focuses on mobilizing and strengthening community-led care for OVC through Community Care Coalitions (CCCs).

**Description:** Developing and scaling up the CCC Model was done in 2 phases. Phase one piloted the model in Zambia and Uganda and helped to develop programming and training materials. Phase two, ongoing, involves scaling up and rolling out the model in high prevalence countries in Africa and documenting lessons for further learning and programming. CCCs in 14 high prevalence countries are caring for more than 500,000 OVC. CCCs and home visitors have new skills and capacity to care for OVCs and their households. Programming, implementing and training materials for use by community members and other partners have been developed and are being used. From 2006 more than one million OVCs are being targeted to receive care and support through this model.

**Lessons learned:** CCCs help reach many OVC, in a relatively short time period, with quality care. They build on local structures and strengths, enhance collaboration among initiatives underway and enable communities to care for their own children. They provide sustainable care of OVC.

**Recommendations:** Scaling up of such magnitude requires more resources (human and financial) and flexibility to adapt to different cultures and policies. On going mentoring and support is essential to the success of CCCs.

### ***Strategic objective 15: Provide social protection for people made vulnerable from the effects of HIV and AIDS***

<b>147. TITLE:</b>	<b>SOCIAL NORMS, HUMAN RIGHTS AND PEOPLE LIVING WITH HIV/AIDS (PLWHA) IN RURAL COMMUNITIES OF ZAMBIA</b>
<b>Authors:</b>	Mwansa E.
<b>Year:</b>	2005
<b>Org/Inst</b>	-
<b>Status:</b>	Published; AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0941
<b>Study Site(s):</b>	-
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0941

**Issues:** Social norms and lifestyle in rural communities have been affected by HIV/AIDS. Rights of people living with HIV/AIDS are being violated and remain unchecked in these areas due to prevailing negative perceptions surrounding the infected people. This situation creates isolation and exclusion of PLWHA resulting in early morbidity.

**Description:** The Local Community Competence Building project based in five areas in rural Zambia, aims to improve the quality of life for PLWHA, strengthen capacities of health institutions and local actors response to the challenges of HIV/AIDS. It promotes rights of the infected and affected. It also raises human rights awareness regarding gender inequalities through research, ART, home based care, micro-finance, advocacy and community education on HIV/AIDS and STIs.

**Lessons learned:** Community life, culture and social norms have been affected leading to change in life styles i.e. wife inheritance, sexual cleansing and communal living. Stigma is still high especially in areas where people cannot freely disclose their HIV/AIDS status. PLWHA have developed coping strategies due to violation of their rights. PLWHA have limited access to health care in villages. Their right to lead a dignified life is stripped as they are seen as promiscuous people, called names and treated with hostility. Their rights to freedom and privacy are infringed as they suffer from gossip, insults and shame. Early morbidity remains high. The project is reducing stigma through intensified education on HIV/AIDS and human rights advocacy.

**Recommendations:** Intensify advocacy and awareness raising for respect of peoples rights regardless of their HIV/AIDS status. Encourage HIV/AIDS support groups as they free the mind and help the infected and affected people live freely. Increase access to ART and reintegration of the excluded people into society and its activities.

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148.	TITLE:	<b>PSYCHOSOCIAL SUPPORT TO CHILDREN LIVING WITH HIV/AIDS AND THEIR CAREGIVERS TO REDUCE STIGMA: A PROGRAMME IN ZAMBIA</b>
	Authors:	Bwalya V. C <sup>1</sup> , Bhat G J <sup>1</sup> and Chitembo L <sup>2</sup> <i>et al</i>
	Year:	2002
	Org/Inst:	<sup>1</sup> University Teaching Hospital, Lusaka, Zambia; <sup>2</sup> Family Health International, Lusaka,
	Status:	Published
	Study Site(s):	University Teaching Hospital Lusaka
	Source:	The XV International AIDS Conference: Abstract no. E12546

**Description:** In October 2002 a Programme to provide psychosocial support to HIV infected children and their caregivers was started at the UTH Lusaka, Zambia. Following activities were initiated: Recreation activities such as singing, painting, story telling, games, and dancing to patients regardless of their HIV status, Picnic for members of Kids club, Teaching to children who stayed longer in the inpatient wards, Child Counselling on issues related to HIV/AIDS, Family review clinics and Production of Health Education Video

**Lessons learned:** During the twelve-month period a total of 1,614 HIV positive children were identified 788 were male and 826 were females. All were below the age of 15 years. A total of 6,451 including HIV Positive and Negative children and their parents participated in at least one form of recreational activities. Among them 1,832 were male children 1,649 female children, 2,629 mothers and 341 were fathers. For teaching in the inpatient wards 1,215 attended. Three Hundred and Thirty Three children were individually counselled. Both children and their caretakers appreciated our service. Chronically ill children benefited to continue their learning while they were in the hospital. Children and their parents interacted well irrespective of their HIV status, which has helped in reducing stigma.

**Recommendations:** There is an urgent need to expand this programme to other hospitals, and health centres in Zambia. Other countries in the region can learn from our experience.

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149.	<b>TITLE:</b> MEASURING THE IMPACTS OF HIV/AIDS-RELATED DEATHS ON RURAL FARM HOUSEHOLDS IN ZAMBIA: IMPLICATIONS FOR POVERTY REDUCTION STRATEGIES <b>Authors:</b> Chapoto A. <sup>1</sup> , Jayne T. <sup>2</sup> <b>Year:</b> 2001-2004 <b>Org/Inst:</b> Department of Agricultural Economics, Michigan State University <b>Status:</b> Published; AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1229 <b>Study Site(s):</b> Farm households <b>Source:</b> AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1229
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**Background:** Fully two decades since the onset of the HIV/AIDS pandemic in Africa, there remains a lack of information about how rural households respond to the disease and are affected differently according to their varied conditions. This study determines the impacts of HIV-related mortality on household welfare, controlling for initial conditions, geographic factors, and the characteristics of the deceased person in the household.

**Methodology:** This study estimates household fixed effects models using nationally representative longitudinal data of 6922 farm households in Zambia, surveyed in 2001 and 2004, to measure the impacts of prime-age mortality on household composition, crop production, livestock assets and income.

**Results:** The study highlights four findings: (1) households try to bring non-resident adult members back to the farm after suffering a death, but their ability to do so is lower for initially poor households, and in households where the death was a male head of household; (2) contrary to conventional wisdom, we find no clear pattern of shifts to labour-saving crops among afflicted households; (3) the death of a male head in households that were poor to begin with suffer a 19% decline in the value of crop output per hectare, in contrast to non-poor households who are largely able to maintain former levels of crop productivity because they are better able to attract other extended family members; and (4) afflicted households first liquidate small animals to cope with the impact of prime-age mortality, and household cattle assets drop especially after the death of the male household head.

**Conclusions:** Investments in AIDS mitigation will be more effective if they take greater account of differences in household resources and conditions, the limiting factor of production in the particular farming system, and the position and gender of the deceased or ill person in the household.

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150.	<b>TITLE:</b> SECURITY OF WIDOWS' ACCESS TO LAND IN THE ERA OF HIV/AIDS: PANEL SURVEY EVIDENCE FROM ZAMBIA <b>Authors:</b> Chapoto A and Jayne T. S. <b>Year:</b> 2006 <b>Org/Inst:</b> Department of Agricultural Economics, Michigan State University <b>Status:</b> Published by Department of Agricultural Economics, Michigan State University in its series
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[International Development Collaborative Working Papers](#)  
with number ZM-FSRP-WP-19.

**Study Site(s): -**

**Source:** <http://www.aec.msu.edu/fs2/papers/order.htm>

Beyond the obvious catastrophic effects of the HIV/AIDS pandemic on mortality, demographic changes, and the suffering of individuals and their families, we are still only learning about the complex longer-term effects of the pandemic on poverty and vulnerability. For example, the HIV/AIDS pandemic has substantially increased the number of widow-headed households in Africa. A huge number of conceptual and qualitative studies highlight gender inequalities in property rights, and the difficulties that widows and their dependents face in retaining access to land after the death of their husbands. HIV/AIDS has undoubtedly exacerbated such problems. However, there remains limited quantitative evidence using representative survey data on the extent to which widows lose their rights to land after the death of their husbands, whether they lose all or part of the land they were formerly controlling, and whether there are certain characteristics of the widow, her deceased husband, and/or her household that influence the likelihood of her losing land rights. It is highly possible that government programs designed to provide a safety net to vulnerable groups may not reach their potential if they ignore gender dimensions of local institutions and property rights.

***Strategic objective 16: Promote programmes of food security and income/livelihood generation for PLHAs and their caregivers/families***

**151. TITLE:** URBAN FOOD SECURITY VULNERABILITY ASSESSMENT OF HIV AFFECTED HOUSEHOLDS

**Authors:**

**Year:** 2008

**Org/Inst:**

**Status:** Ongoing

**Study Site(s):** Lusaka, Livingstone and Kitwe

**Source:**

This survey addresses the food security of HIV affected households in urban areas. Data have been collected for 1385 HIV affected households in Kitwe, Livingstone and Lusaka.

The survey seeks to improve understanding of three aspects:

- The basic profile of **HIV affected households** in urban areas
- The **extent of vulnerability** faced by these urban households
- The key factors underlying vulnerability by analysing **vulnerability groups**

Key points that emerge from this assessment are the following:

#### **Profiling**

- There is no simple urban pattern – even the three urban areas addressed in this survey differ markedly. Thus targeting of urban households is not sufficient, and similarly blanket policies addressing all HIV affected urban households risk being unproductive.
- There is little evidence of child-headed households.

- 30% of households are caring for at least one orphan; three quarters are caring for a chronically sick person. Both of these caring responsibilities imply food security concerns for the household.
- Effective dependency rates are correspondingly higher in the most vulnerable households.
- Asset-rich households are less likely to suffer food insecurity.
- Women will only act as household head if the spouse is absent for some reason (including deceased).
- Households headed by women are more likely to host orphans.

### **Vulnerability measures**

- The main indicators for food insecurity suggest that HIV affected households in these urban areas are at least as vulnerable as existing beneficiaries of WFP interventions. Coping strategies and food consumption scores both support this.
- The measurement of food security is complex, and there are no simple approaches to this. Results for differing measures can appear contradictory.

### **Vulnerability**

- A relatively small group of worst off households can be identified in the basis of high CSI, low FCS and low asset wealth.
- A sizeable group of vulnerable households is identified, which is faring slightly better in terms of outcomes. Members of this group face the constant risk of slipping into the worst off category.
- The worst off depend heavily upon begging and food assistance.
- The vulnerable group depends far more upon casual labour – which is a risky and unstable source of income.
- Stable sources of income markedly improve food security – through regular income flows from wage/salaried employment, small businesses, petty trade or a skilled trade.
- Education similarly reduces the likelihood of food insecurity.
- The most insecure households in Lusaka are faring substantially worse than in Livingstone.

### **Potential interventions suggested by the analysis**

- Measures to improve the nutritional food intake of the most vulnerable households.
- Measures to ease the caring burden in the most vulnerable households, who are looking after chronically sick or orphans, or following a death.
- Measures to improve capacity to earn a regular income – through a basic vocational acquisition.
- Measures to improve capacity to earn a regular income – through support to establish petty trading.
- Measures to improve capacity to earn a regular income – through acquisition of an asset (which allows a return to be earned).

The uncertainty of income from casual labour inhibits rational decision-making by households – even if ex-post income was sufficient. Provide support for moves to formalise employment by reducing the restrictiveness of Zambian labour contracts.

**3.4. THEME IV.****STRENGTHENING THE  
DECENTRALISED RESPONSE BY  
MAINSTREAMING HIV AND AIDS**

The main objective under the theme of **strengthening the decentralised response by mainstreaming HIV and AIDS** is to build capacity at all levels (national, provincial district and sub district) to manage and sustain a comprehensive response to the epidemic through efforts that create a more enabling environment for community based initiatives. The following are the strategic objectives under this theme:

- i. Mainstream HIV and AIDS into district level development policies, strategies, plans and budgets
- ii. Improve capacity of districts, provincial and national planning mechanisms promoting sectoral HIV and AIDS planning, monitoring and coordination
- iii. Mainstreaming HIV and AIDS into sector (Private, public and civil society) development policies, strategies plans and budgets
- iv. Develop and implement comprehensive workplace policies that take into consideration issues around education, awareness and prevention, treatment, care and support
- v. Support the development of workforce development strategies which prioritize the key sectors critical to the response to HIV and AIDS

A systematic approach is needed to build local capacity at district level to manage and sustain a comprehensive response to the epidemic through efforts to create a more enabling environment to community based local level initiatives. This includes a focus on strengthening the capacity at district level for managing, coordinating and monitoring of multi-sectoral response and implementation of HIV and AIDS interventions and mainstreaming of HIV and AIDS into workplace and policies of public, private and civil society organisations to support harmonised and sustainable processes at the district level

This section consists of abstracts that address the foregoing strategic objectives

***Strategic objective 17: Mainstream HIV and AIDS into district level development policies, strategies, plans and budgets***

152.	<b>TITLE:</b>	<b>TOO MANY JOBS, TOO FEW DOCTORS: PROBLEMS AND POSSIBLE SOLUTIONS FOR GOVERNMENT HEALTH INSTITUTIONS SHARING CLINICALLY TRAINED OFFICIALS WITH HIV/AIDS RESEARCH CENTRES</b>
	<b>Authors:</b>	Chomba E. <sup>1</sup> , Albertini J. <sup>2</sup>
	<b>Year:</b>	2001

<b>Org/Inst:</b>	University Teaching Hospital, Ministry of Health
<b>Status:</b>	Published in The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. MoPe11.10C18
<b>Study Site(s):</b>	National
<b>Source:</b>	The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. MoPe11.10C18

**Introduction:** The increased funding for HIV/AIDS research in developing countries has created a wealth of research opportunities for physicians, many of who are working for the Ministry of Health. Such positions offer higher wages than the government agencies can offer. These high wages have created a situation, which results in an extreme variation in salaries, and therefore a high turnover rate and training costs to both government institutions and international HIV/AIDS research centres. As a result, the need to share a limited number of clinically trained physicians between the government institutions and the HIV/AIDS research centres becomes a critical issue.

**Methodology:** Key informant interviews and literature reviews form the basis of this study. Research centres receive funding from international, national and bilateral donors. These organizations set up centres in developing countries and hire local clinical staff, many of whom were previously government employees.

**Results:** The siphoning off of skilled government workers has left a dearth in government health systems worldwide. Training leading to advanced degrees has been provided to more than 20 physicians affiliated with an HIV research project in Zambia to support an even distribution of human resources. Several of these researchers sponsored by this project now collaborate with the research project part-time while maintaining their responsibilities at government hospitals and health centres. This ensures technology transfer and allows civil servants to earn more without leaving government. Unfortunately, several other organizations have hired the few physicians available full time, which depletes government institutions even further.

**Conclusions:** Research projects must work closely with Ministries of Health to ensure that research and care mandates are mutually reinforced, and in particular to protect government against debilitating brain drain caused by a burgeoning NGO sector. International organizations must examine the impact they have on local government health systems and salary scales.

153.	<b>TITLE:</b>	ACCESS FOR ALL: CHALLENGES FOR AFRICA
	<b>Authors:</b>	S Chishimba <sup>1</sup> , F Zulu <sup>1</sup> , G Nguni <sup>2</sup>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	<sup>1</sup> Commonwealth ACT, Lusaka, Zambia; <sup>2</sup> Ministry of Youth, Sport and Child Development, Lusaka, Zambia
	<b>Status:</b>	Published in an Abstract Book of the XV International AIDS Conference: Abstract no. D12606
	<b>Study Site(s):</b>	National
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. 12606

**Issues:** Significant strides have been recorded to establish the causal-effect relationships of HIV/AIDS. Critical to grapple with HIV/AIDS, is accessibility to: Behaviour Change Interventions (BCIs), supportive messages for PLWA, legal aid, care and support for OVCs and other survivors, treatment of STIs, palliative care which includes ARVs, treatment of opportunistic infections like TB, Voluntary Counselling and Testing, public viral load monitoring facilities, Prevention of Mother To Child Transmission of HIV (PMTCT), safe

blood, etc. These interventions are effect-based. Cause-based interventions have limited attention.

**Description:** Commonwealth ACT undertook a review of the health care delivery system and HIV/AIDS/STI/TB frameworks that have been developed since the advent of HIV/AIDS in Zambia. Literature was reviewed on studies that have already been undertaken to determine the success of health reforms and their implications on HIV/AIDS interventions. A study in five project sites of Commonwealth ACT was meant to validate current findings. Key informants were mothers as frequent users of health facilities. FGDs were used.

**Lessons learned:** The following affect accessibility to services: Poverty (material), long distances in terms of coverage, lack of information, illiteracy, gender inequality, and political affiliation and language barriers.

**Recommendations:** It has been declared that HIV/AIDS is not just a public health problem, but a development crisis as well. Therefore there is need for a paradigm shift from mere accessibility to AIDS related services to economic activities that enhance human development. Poverty is the major challenge that should be fought in Africa in order to address HIV/AIDS. People can access VCT, ARVs, HBC and other services, but they do not have enough income to buy food and access other services. Food distribution is no a solution to the crisis that Africa faces. Investing in sustainable food security and micro-financing for affected households, especially women would impact positively on the population.

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154.	<b>TITLE:</b>	<b>HIV/AIDS AND ECONOMIC GROWTH IN ZAMBIA</b>
	<b>Authors:</b>	Sichone and Shadrick E. N.
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	African Institute for Economic Development and Planning (IDEP)
	<b>Status:</b>	Published
	<b>Location:</b>	Lusaka
	<b>Source:</b>	African Institute for Economic Development and Planning (IDEP)

**Objectives:** This study explores the relationship between HIV/AIDS prevalence and economic growth. The main objective of the study is to determine the effects of HIV/AIDS on household labour supply and economic growth in Zambia; and to assess the policy implications.

The study tests three hypotheses. First, that high HIV/AIDS prevalence reduces the GDP growth rate. Second, that high HIV/AIDS prevalence leads to a fall in savings and investment. Third, High prevalence of HIV/AIDS affects labour supply and may increase household poverty because of illness and deaths.

**Results:** The results show that productivity has been falling and economic cost associated with loss of labour as a result of deaths is found to account for 3 percent of GDP. HIV/AIDS impact on growth is by way of reduction in labour force and life expectancy that has fallen to 37.5 years. Women are found to have a higher infection rate and mortality than men hence need to address the gender dimension. HIV/AIDS is slowing economic activities and may be worsening the poverty situation at household level as a result of loss of labour and saving.

**Recommendations:** Policy recommendations are that first, Government check the high rate of attrition in the potential labour force and the declining life expectancy. Promote growth

by investing in infrastructure that supports agriculture, health and education. Encourage participation of women in production process and promote education policies that improve literacy and create awareness among the population. Second, Communities adopt strategies to address hunger, poverty and household security. Third, Donor agencies provide support to build capacity in national governments and communities to combat HIV/AIDS. Fourth, Research strengthen information gathering.

**Conclusion:** The study concludes that HIV/AIDS has had impact on the Zambian economy due to its effect on labour force. Because of this, there is need to promote policies that would encourage productivity and reduction in the loss of human capital.

**Strategic objective 18:** *Improve capacity of districts, provincial and national planning mechanisms promoting sectoral HIV and AIDS planning, monitoring and coordination*

155.	<b>TITLE:</b>	THE COST OF HIV / AIDS AMONG PROFESSIONAL STAFF IN THE ZAMBIAN PUBLIC HEALTH SECTOR
	<b>Author(s):</b>	Feeley R, Macwangi M, Rosen <i>et al</i>
	<b>Year:</b>	2004
	<b>Inst/Org:</b>	Ministry of Health, Centre for International Health and Development, Boston University School of Medicine and Study performed for CBoH and USAID.
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	UTH, Lusaka DHMT and Kasama DHMT
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Objective:** The overall objective of this study was to estimate the costs to the public health service in Zambia of HIV and AIDS among professional employees.

**Methodology:** Costs associated with HIV/AIDS related illness and death among health professionals were estimated using a case/comparison methodology, estimates were developed for costs resulting from incremental absenteeism, death benefits and additional medical care of health professionals. The study population included all doctors, clinical officers and nurses employed at UTH, LDHMT and Kasama District. 108 deaths occurring over a three year period were compared with 216 currently serving professionals of similar age, sex and training. Observed death rates over the three year preiod were 0.4% for physicians, 2.8% for clinical officers and 3.5% for nurses. Costs ranged from \$2,878 per death (clinical officers) to \$4,256 per death (doctors) and totaled 3.6% of annual labor costs for all professionals at these sites.

**Results:** On average, professionals died at age 37.7 years, leaving 46% to 57% of the normal career remaining. To offset the observed deaths, output of newly trained clinical officers must increase by 80%, output of newly trained nurses by 50%. Providing HAART to health professionals is one way to reduce the impact of HIV/AIDS on the professional labor force. The costs measured for each death would purchase antiretroviral care for 6-8 years, and effective treatment of all infected professionals could reduce vacancy rates 5 years hence by 10% to 15%.

<b>156.</b>	<b>TITLE:</b>	<b>CAPACITY ISSUES IN THE PUBLIC HEALTH SECTOR: WHAT WE KNOW AND WHAT CAN BE DONE IN THE CONTEXT OF HIV/AIDS</b>
	<b>Author(s):</b>	Macwangi M, Ngoma M. S. and Ndubani P.
	<b>Year:</b>	2004
	<b>Inst/Org:</b>	Public Service Management Division, Cabinet Office, Ministry of Health, United Nations Development Program and the University of Zambia
	<b>Status:</b>	Published by UNDP
	<b>Study Sites:</b>	National
	<b>Source:</b>	UNDP, UNZA, INESOR and MSDP

**Objective:** This work was part of the large study assessing the public sector capacity to deliver their mandate in the context of HIV and AIDS. The objectives of this study were to: (i) assess the policy environment and efforts being made to enhance the fight against HIV/AIDS, (ii) Review studies conducted on the impact of HIV/AIDS and the application of the study recommendations, (iii) identify Capacity Issues that affect the ability of the Public Sectors to deliver on their mandates, (iv) identify gaps to facilitate development of interventions that will enhance the sector's capacities to deliver on their mandate.

**Methodology:** The methodology included regular planning and consultative meetings, extensive review of relevant literature, records review and in-depth interviews with key informants in the sector, cabinet office and cooperating partners

**Results:** The policy environment for the mitigation of HIV/AIDS is conducive as evidenced by high political/goodwill from the government /co-operating partners. However, a number of these policies i.e. National HIV/AIDS policy, HIV/AIDS workplace policy, Human resource policy and the national health research policy are still in a draft form.

Development of the HIV/AIDS workplace policies is not standardized in the public sector to facilitate tracking of implementation of policy efforts and impact on intended targets. The public sector capacity is constrained by poor national economic performance resulting in government's failure to provide conducive work environment and competitive salaries and wages in order to attract and retain skilled personnel in the public sector

The study also noted that a lot of studies on HIV/AIDS have been conducted but few directly address capacity issues in the public sector. This assessment also observed that management and coordination of research activities in the public sector is weak. Mechanisms to regularly update research agendas and priorities are weak. The study also noted that there is a growing link between research and policy and programs.

**Recommendations:** Specific recommendations for Enhancing Capacity were made:

- Finalize and Translate the Draft HIV/AIDS Sector Workplace Policy
- Standardize and harmonize, the health sector workplace policy with other sectors
- Review the public sector regulations and general orders in the context of HIV/AIDS
- Strengthen the planning and monitoring of human resources in the sector
- Strengthen the office of the focal point person to a functional level
- Strengthen management and financial systems
- Enhance health governance Structures and
- Strengthen research capacity and systems and conduct research to fill gaps in our knowledge

<b>157.</b>	<b>TITLE:</b>	<b>PROTECTING AFRICA'S WILDLIFE AND PARKS: "THE IMPACT OF AIDS ON THE ZAMBIA WILDLIFE AUTHORITY"</b>
	<b>Authors:</b>	Rosen S. <sup>3</sup> , Hamazakaza P. <sup>4</sup> and Feeley F <sup>1</sup> <i>et al</i>
	<b>Year:</b>	2003-2005
	<b>Org/Inst:</b>	Center for International Health and Development (CIHD), Boston University, Boston, MA, USA and Farming Systems Association of Zambia, Lusaka, Zambia
	<b>Status:</b>	Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b> -	
	<b>Source:</b>	Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Objectives:** This study sought to describe and quantify the impact of AIDS-related morbidity and mortality on the skilled labour force in tourism industry focusing on a government agency, ZAWA. Specifically, it aimed to answer three research questions; (1) To what extent is HIV/AIDS increasing labour costs for ZAWA?, (2) How is HIV/AIDS affecting Saw's ability to fulfil its mission?, and (3) What are the net benefits or costs of providing treatment for AIDS to ZAWA employees?

**Methodology:** Study collected budgetary impact data which included; medical care, life insurance, funeral costs, recruitment and training of replacement and also mission impact that included; loss of days spent on patrol as a result of illness, management time, funeral attendance, vacancy, and training. Modelled potential net benefits of providing treatment with Anti-Retroviral drugs. Other data included ZAWA workforce characteristics; recent mortality; costs of benefits, recruitment, and training; and the number of days spent on patrol between 2003 and 2005 by a random sample of 238 wildlife police officers (WPOs), including 11 who died in service of AIDS or suspected AIDS.

**Results:** The primary task of WPOs is to patrol the national parks. Current workforce spent an average of 197 days on patrol per year. After adjusting for age, years of service, and worksite, WPOs who died of AIDS spent 63 days on patrol in their last 12 months of service (-68% decrease in performance), 97 days in their second to last year of service (-51%) and 124 days in their third to last year of service (-37%). For each employee who died, ZAWA reported losing an additional 6 person-days of supervisory time, 32 person-days for funeral attendance, and 73 person-days for recruiting and training a replacement. Total productivity loss per death was equal to 1.6 person-years. Each AIDS-related death also imposed an additional budgetary cost equal to 3.3 years' annual compensation. Annual AIDS-related mortality was estimated at 3.1%, accounting for 80% of all employee attrition. As a result, ZAWA's overall capacity to patrol the parks was reduced by 5.0%, labour costs increased by 9.7%, and the cost to provide one day of patrolling increased by 10.0%. Access to antiretroviral therapy (ART) was negligible in this population. If ART and pre-ART care could be provided for \$500/patient/year, net savings to ZAWA would approach \$300,000/year.

<b>158.</b>	<b>TITLE:</b>	<b>ZAMBIA: DISTANCE-LEARNING COURSE FOR ANTIRETROVIRAL THERAPY PROVIDERS</b>
	<b>Authors:</b>	Alain D

**Year:** 2007  
**Org/Inst:** Johns Hopkins Program for International Education in Gynaecology and Obstetrics JHPIEGO  
**Status:** Ongoing  
**Study Site(s):** National  
**Source:** Johns Hopkins Program for International Education in Gynaecology and Obstetrics JHPIEGO

**Objective:** Through the Center for Disease Control and Prevention (CDC) University Technical Assistance Projects (UTAP) award, JHPIEGO and CDC have collaborated to develop a training course on antiretroviral therapy and opportunistic infections management for HIV/AIDS service providers in Zambia. Designed to be delivered using distance-learning approaches (i.e., through various electronic multimedia), the course is intended to provide continuing education to teams of clinicians (who have had basic training in HIV/AIDS care) at service delivery sites throughout the country.

**Results:** The course is composed of 12 technical modules, each containing a lecture recorded by a local clinical expert and accompanied by a visual presentation, and print materials, including assignments and tests. Such a format allows for continual reinforcement of key HIV/AIDS care and treatment concepts, and for quick and inexpensive periodic technical updates as clinical guidelines and protocols change in this highly dynamic field. Also included are recorded interviews with people living with HIV/AIDS (PLWHA), which will help clinicians understand the psychosocial aspects of providing HIV/AIDS services. Course exercises employ the performance and quality improvement (PQI) approach to help participants effectively transfer their learning to the workplace. They are also designed for use by teams, rather than individual providers, to reinforce the importance of working together helping to ensure continuity of care for PLWHA. Implementation of the course is now under way. Up to 100 providers from approximately 50 service facilities are targeted for enrolment in the course in the first year, with plans for nationwide scale-up in the next year. About JHPIEGO: JHPIEGO (pronounced "JA-PIE-GO"); an international health organization affiliated with The Johns Hopkins University in Baltimore, Maryland, builds global and local partnerships to enhance the quality of health care services for women and families. JHPIEGO's focus is on training and support for health care providers including doctors, nurses, midwives and health educators working in limited-resource settings throughout Africa, Asia, the Middle East, Latin America and the Caribbean. JHPIEGO has Center of Excellence in Maternal and Child Health, HIV/AIDS, and Family Planning and Reproductive Health to strengthen services to women and families in 50 countries around the world.

**159. TITLE:** **EMPLOYMENT OF OFF-DUTY STAFF AS A STRATEGY TO MEET THE HUMAN RESOURCE NEEDS OF AN EXPANDING PMTCT PROGRAM IN ZAMBIA.**  
**Authors:** Sinkala M, Chi B, Stringer E. M *et al*  
**Year:** 2001  
**Org/Inst:** Zambian Ministry of Health, Centre for Infectious Disease Research in Zambia  
**Status:** Published in the abstract book of the XV International AIDS Conference in Bangkok, Thailand, July 11-16, 2004  
**Study Site(s):** Lusaka  
**Source:** XV International AIDS Conference in Bangkok, Thailand, July 11-

16, 2004; Abstract WePeE6761.

**Issue:** In Lusaka, Zambia, the district health system delivers ~47,000 infants per year in a setting of 25% HIV prevalence. Recent implementation and expansion of a district-wide PMTCT program has been extremely burdensome on an already depleted healthcare staff. The qualified midwife to patient ratio is 1:45, significantly higher than the 1:15 recommended by WHO.

**Description:** Rather than hiring additional staff for PMTCT, we have instead employed off-duty clinic personnel to fill extra shifts. This approach allows our midwives and nurses to earn supplemental pay, while offering the program substantial cost savings. Since program start-up in October 2001, the District PMTCT program has paid off-duty midwives US\$67,289 to work 16,822 eight-hour shifts. We estimate that hiring and training additional staff to do the same work would have cost US\$168,960. Thus, our strategy of employing off-duty staff for PMTCT has resulted in a cost savings of US\$57,264 over the first year and US\$38,064 in the second year, representing 184% and 123% of our average yearly expenditures thus far. Cost per shift is US\$4 in the off-duty strategy versus US\$11 in the first year and US\$9 in subsequent years for the regular staffing strategy. This program has been acceptable to healthcare staff and has added benefit of building in-country capacity and integrating PMTCT into existing health services.

**Lesson learned:** By relying on an existing cadre of midwives and a novel overtime employment scheme, the Lusaka District PMTCT Program has been able to deliver VCT services in a cost-efficient manner. The degree of cost-savings will depend on local circumstances.

**Recommendation:** As health systems in resource-poor areas continue to scale-up PMTCT and antiretroviral treatment, our model of employing existing staff for additional, off-duty shifts is one way to insure the delivery of quality health care in a setting of increased human resource demands.

160.	<b>TITLE:</b>	HIV/AIDS STRATEGIES LACK STRENGTH DUE TO INEFFECTIVE YOUTH CAPACITY-BUILDING AND UNDERUTILIZATION OF ICTS IN DEVELOPING COUNTRIES
	<b>Authors:</b>	Sepiso S.O.
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	World Bank in Zambia and the National AIDS Council
	<b>Status:</b>	Published in the Abstract Book for <i>AIDS 2006 – XVI International AIDS Conference</i> : Abstract no. CDE0646
	<b>Study Site(s):</b>	National
	<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. CDE0646

**Issues:** 1. Peer Education is not sustainable as a tool to fight youth in Developing countries. 2. New approaches of Capacity-Building for Youth programmes are needed. 3. Training youth to be ICT-literate for employment in the HIV/AIDS sector saves funds, fights Brain-Drain in the Health Sector and would help attain the MDG targets for HIV/AIDS.

**Description:** A study commissioned by the World Bank in Zambia and the National AIDS Council revealed that a number of strategies such as Peer Education and Volunteerism in Zambia need addressing. A national HIV/AIDS Forum held in November 2005 in Zambia discovered shortcomings in Capacity-Building. We are now running a World Bank/Rotary

Club and US Government project to train youth workers in the HIV/AIDS sector as support for expensively trained staff to reach the MDGs target. The paper shall address these issues.

**Lessons learned:** In Zambia, capacity-building among youth interventions are lacking and new strategies are needed if we are to have meaningful impact on the fight against HIV/AIDS. Secondly, ICTs are an effective tool to fight unemployment in general, brain drain in the health sector and reduce patient to staff ratio in developing world. A Zambian project has shown this which is a new field of activity in Zambia. Case studies from Zambia and project success stories like the Zambia NGOs eRiding project shall be used to illustrate these.

**Recommendations:** peer education needs readdressing as it drains needed funds for the fight against HIV/AIDS. Instead, we need to train youth in ICT so they can gain employment in the HIV/AIDS sector. New Capacity building strategies like eRiding are needed in the fight against HIV/AIDS.

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**161. TITLE: INTEGRATION OF HIV CARE AND OUTPATIENT SERVICES IN PUBLIC HEALTH CLINICS IN LUSAKA, ZAMBIA: LESSONS FROM IMPLEMENTATION PLANNING.**

**Authors:** Topp S. M, Chiko M. M, Manley N. R *et al*  
**Year:** 2007  
**Org/Inst:** Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health  
**Status:** Accepted for presentation at XVII International AIDS Conference; Mexico City, Mexico; August 3-8, 2008.  
**Study Site(s):** Lusaka  
**Source:** XVII International AIDS Conference; Mexico City, Mexico; August 3-8, 2008

**Issues:** Like many programs in sub-Saharan Africa, the urgent scale up of antiretroviral treatment (ART) in Lusaka, Zambia led to the establishment of HIV/AIDS services separate from routine outpatient (OPD) care. Over time, these vertical services have exacerbated pre-existing shortages of health care workers and physical space, making further scale up of ART services and the introduction of opt-out diagnostic counselling and testing (DCT) difficult.

**Description:** In September 2007, the Zambian Ministry of Health (MOH) began planning for a pilot program to integrate ART and OPD in two Lusaka primary health care clinics. Stakeholder meetings and early site visits revealed three key problems with the existing vertical system: i) operational constraints created by clinic space, ii) deficit of staff capacity and motivation and iii) interplay of HIV-related stigma between staff, patients and community. The purpose of piloting an integrated model is to address these problems and strengthen health care systems through consolidation of resources, improved consistency of clinical care, and stronger case finding and referral mechanisms. A four-month participatory planning phase focused on five strategic tasks to achieve this: i) development of an integrated patient flow model, ii) mapping of appropriate infrastructure needs iii) design of quality control systems, iv) planning of health care worker training and v) patient and community sensitisation and involvement.

**Lessons Learnt / Next Steps:** Participatory pre-implementation planning helped to address the clinical, logistical and social barriers to systems-change and develop an acceptable and clinically functional integration model. Careful monitoring and evaluation of the implementation phase will provide important data on the operational feasibility and

cost effectiveness of integrating OPD and ART in high-burden settings such as Lusaka, Zambia.

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162.	<b>TITLE:</b> EVALUATION OF POSITIVE LIVING ADVOCATES COURSE <b>Authors:</b> Dunnett-Dagg W A, Trivedi P, Patel D <i>et al</i> <b>Year:</b> 2003 <b>Org/Inst:</b> DAPP in Zambia <b>Status:</b> Published in the XV International AIDS Conference: Abstract no. MoPeD3872 <b>Study Site(s):</b> Ndola <b>Source:</b> The XV International AIDS Conference: Abstract no. MoPeD3872
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**Background:** An evaluation was carried out to examine the effectiveness of the Positive Living Advocates Course (PLAC) - one of the Post-test services offered by the Hope Projects under Development Aid from People to People in Zambia. The PLAC is 6-month training for PLHA who are ready to share their status and to become advocates in the community. PLAC teaches basic facts about HIV/AIDS, positive living, food & nutrition, importance of regular exercise, health & hygiene, advocacy, herbs & other affordable remedies.

**Methodology:** 208 participants from 13 Hope Projects were interviewed, 132 female & 72 male. The majority were graduates and the remainder were currently enrolled in the PLAC.

**Results:** The main reason given for attending VCT was prolonged sickness &/or death of spouse. People living in remote places preferred mobile VCT services. Initial reaction to an HIV positive test result was pessimistic, but many stated that after attending PLAC they felt accepted and supported. Participants reported behaviour change including fewer sexual partners, improved diet and better hygiene. They also reported increased use of herbs as an aid to health and treating their drinking water. Few were taking vitamin supplements, de-worming treatment or sleeping under mosquito nets. Most current participants are not able to share their status, except within the group, but many graduates are able to share their HIV status and to mobilise others to attend VCT. Most respondents have a large family and low income, mainly from small business/farming. They are spending less than 1\$ on food daily and many were suffering from TB, Malaria, skin diseases and chest & abdominal pain.

**Conclusions:** Graduates from the PLAC benefit from increased knowledge and enhanced social support. The programme can be strengthened by emphasising protective health measures such as de-worming and use of mosquito nets. There is also need to enhance household food security and to boost household income.

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163.	<b>TITLE:</b> BUILDING HUMAN CAPACITY TO RESPOND TO HIV/AIDS- A CASE OF ZAMBIA <b>Authors:</b> Zulu K P <b>Year:</b> 2002 <b>Org/Inst:</b> Zambia Association for Prevention of HIV and Tuberculosis <b>Status:</b> Published in The XV International AIDS Conference: Abstract no. E10179 <b>Study Site(s):</b> - <b>Source:</b> The XV International AIDS Conference: Abstract no. E10179
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**Background:** Given the uniquely devastating impact of HIV/AIDS on house holds, communities and entire societies, national policies and poverty-reduction strategies need to be adjusted and expanded accordingly, without which HIV/AIDS will continue to erode human development achievements, without which deepen poverty and further hinder policy development that guarantee access to education, health and viable livelihood.

**Methodology:** Carefully compiled and tallied data can only hint at the epidemic's human impact, whether at the global, societal, familial or individual level. Mobilizing and building the human capacity to cope with and overcome the effects of HIV/AIDS is therefore, essential to policy and programme implementation.

**Conclusion:** Often, circumstances have led policy-makers and social leaders to enlist community members as leaders of initiatives, rather than positioning them at the receiving end as mere "beneficiaries" or "clients". In Zambia a National Facilitating Team was formed to ensure that local responses are nurtured and expanded. Participating members of the team are drawn from national and local networks and organizations that are keen to develop human capacity as part of their response to HIV/AIDS. The Team is developing innovative ways of transferring knowledge, enabling networks and organizations to learn from local experiences and integrate these into national policies, that later inform programmes. This background has seen the enactment of the National HIV/AIDS,TB and STI Council as an "Act of Parliament". Legitimizing its existence as a legal entity empowered to sue and defend its affiliates.

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164.	<b>TITLE:</b>	<b>BUILDING COMMUNITY MOBILISATION SKILLS AT SCALE: THE SYNERGY OF RADIO DISTANCE LEARNING AND THE ROLL-OUT OF A NATIONAL CURRICULUM FOR HEALTH WORKERS IN ZAMBIA</b>
	<b>Authors:</b>	Serlemitos E. A. T <sup>1</sup> , Bharath-Kumar U <sup>1</sup> , Nyambe J A <sup>2</sup> <i>et al</i>
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	<sup>1</sup> Johns Hopkins University, <sup>2</sup> Bloomberg School of Public Health/Center for Communication Programs, Baltimore, United States
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no.TuPeE5476
	<b>Study Site(s):</b> -	
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. TuPeE5476"

**Issues:** Having impact on HIV/AIDS issues at community level is always a challenge, especially so when resources are limited and scattered communities need to be reached. Given the 16 percent prevalence of HIV/AIDS, creating skills to do HIV/AIDS activities within the approximately 10,000 communities in Zambia is necessary and urgent.

**Description:** In 1991 the Zambian Ministry of Health, as part of its Health Reform programme, began to promote community involvement to bring essential health care as close to the family as possible. 50 percent of Zambians are not within normal walking distance of a clinic. To address this, Neighbourhood Health Committees (NHCs) were created to link clinics and communities and increase access to basic health services. A national community mobilization curriculum was developed and a training of trainers and roll-out methodology was adopted to strengthen and increase effectiveness of the more than 100,000 NHC members countrywide, with specific focus on NHCs learning health promotion and community mobilization skills. This was complemented by a 26-week, 30-

minute radio distance learning course broadcast twice weekly in five languages. Print materials supplement the courses.

**Lessons learned:** The synergy of face to face training with distance education is both effective and affordable. NHCs find it easier to instruct their neighbours with radio learning as a teaching tool. To date more than 10,000 people have been trained through face to face instruction (in about 20 of 72 districts) at an average cost of US\$ 40 per trainee, and over 25,000 through distance education (in most districts), at an average cost of US\$13 per participant. Most of the NHCs created action plans based on health priorities identified by the community. HIV/AIDS consistently appeared as a top concern in all action plans.

**Recommendations:** Although evidence shows NHCs are now more empowered with information, materials and community mobilisation skills, a stronger relationship with the health centres is needed for NHCs to be even more effective in their work.

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<b>165.</b>	<b>TITLE:</b> <b>COMMUNITY LEADERSHIP AND ACTION IN THE FIGHT AGAINST HIV/AIDS</b>
	<b>Authors:</b> Moonga C. N
	<b>Year:</b> 2005
	<b>Org/Inst:</b> Choma District HIV/AIDS Task Force
	<b>Status:</b> Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b> Choma
	<b>Source:</b> Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Background:** HIV/AIDS has for the past two decades continued to spread across all continents killing millions of people, disrupting and impoverishing families and turning millions of children into orphans. In Zambia there is an estimated adult HIV prevalence of 16% whilst in Choma where Mboole Rural Development Initiative is found, the HIV prevalence is estimated at 19.2%. The spread of HIV is fuelled by the gender inequalities that exist in our communities.

**Objectives:** (i) Reduce illiteracy levels in the community especially among OVCs through school requisites support (ii) Empower women through provision of information on their rights (iii) Create employment for out of school youths through running IGAs (iv) Enhance household food security

**Lessons Learnt:** (i) Winning community support is the key to development and a sustainable fight against HIV/AIDS (ii) The spirit of volunteerism yields better results Technical support from district level structures is key in ensuring the sustainability of community initiatives (iii) The fight against HIV/AIDS does NOT start with money. However, it needs external resources to be enhanced

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<b>166.</b>	<b>TITLE:</b> <b>EMPOWERING A MULTI-SECTORAL RESPONSE TO HIV/AIDS AT THE DISTRICT LEVEL IN ZAMBIA</b>
	<b>Authors:</b> Hakoma C M.
	<b>Year:</b> 2006
	<b>Org/Inst:</b> SHARe - Zambia
	<b>Status:</b> Published in an Abstract Book, 4 <sup>th</sup> National Health Research Conference
	<b>Study Site(s):</b> Copperbelt Province

**Source:** Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

Leadership is critical to the fight against HIV/AIDS at all levels. Organizational mechanisms mandated to coordinate and lead the multi-sectoral response to HIV/AIDS at the local level in resource-poor settings too often lack essential competencies in strategic planning and organizational development.

**Methodology:** The USAID-funded project SHARe (Support to the HIV/AIDS Response in Zambia) has been providing assistance to the District AIDS Task Forces, multi-sectoral coordinating mechanisms mandated by the Zambian Government to provide leadership at the district level. In Copperbelt Province, SHARe worked with ten districts to provide technical assistance and training them in organizational development and guiding them in drafting their strategic plans. The involvement of local government and community leaders was encouraged from the beginning of the process to ensure shared ownership of the response to HIV/AIDS.

**Results:** Districts increased the number of stakeholders engaged in the fight against the epidemic, developed shared visions, better articulated missions and clearer mandates. Districts developed also multi-sectoral HIV/AIDS strategic plans, along with monitoring and evaluation plans, which will allow increased coordination with provincial and national activities. Building from the strategic plans, districts have begun to mobilize resources locally to implement planned interventions.

**Lessons learned:** Technical assistance to district-level coordinating mechanisms requires initial relationship building and sustained involvement by organizations providing this support. Training expands organizational capacity, which facilitates the identification and execution of institutional mandates and strengthens planning and coordination activities. Coordinated and inclusive capacity-building activities increase the number of local stakeholders in the fight against HIV/AIDS.

**Conclusion:** Organizations with limited resources in the fight against HIV/AIDS must be supported to develop essential organizational capacities, clear mandates, and shared visions of success.

167.	<b>TITLE:</b>	CAPACITY ISSUES IN THE PUBLIC EDUCATION SECTOR: WHAT WE KNOW AND WHAT CAN BE DONE IN THE CONTEXT OF HIV/AIDS
	<b>Author(s):</b>	Macwangi M, Ndubani P and Ngwengwe.
	<b>Year:</b>	2004
	<b>Inst/Org:</b>	Public Service Management Division, Cabinet Office, Ministry of Health, United Nations Development Program and the University of Zambia
	<b>Status:</b>	Published by UNDP
	<b>Study Sites:</b>	National
	<b>Source:</b>	UNDP, UNZA, INESOR and MSDP

**Objective:** This work was part of the large study assessing the public sector capacity to deliver their mandate in the context of HIV and AIDS. The objectives of this study were to: (i) assess the policy environment and efforts being made to enhance the fight against HIV/AIDS, (ii) review studies conducted on the impact of HIV/AIDS and the application of the study recommendations, (iii) identify Capacity Issues that affect the ability of the Public Sectors to deliver on their mandates, (iv) identify gaps to facilitate development of interventions that will enhance the sector's capacities to deliver on their mandate.

**Methodology:** The methodology included regular planning and consultative meetings, extensive review of relevant literature, records review and in-depth interviews with key informants in the sector, cabinet office and cooperating partners

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168.      **TITLE:**     **CAPACITY ISSUES IN THE PUBLIC AGRICULTURE SECTOR: WHAT WE KNOW AND WHAT CAN BE DONE IN THE CONTEXT OF HIV/AIDS**

**Author(s):**                Macwangi M, Kamwanga J Ndubani P.  
**Year:**                      2004  
**Inst/Org:**                  Public Service Management Division, Cabinet Office, Ministry of Health, United Nations Development Program and The University of Zambia  
**Status:**                    Published by UNDP  
**Study Sites:**              National  
**Source:**                    UNDP, UNZA, INESOR and MSDP

**Objective:** This work was part of the large study assessing the public sector capacity to deliver their mandate in the context of HIV and AIDS. The objectives of this study were to: (i) assess the policy environment and efforts being made to enhance the fight against HIV/AIDS, (ii) review studies conducted on the impact of HIV/AIDS and the application of the study recommendations, (iii) identify Capacity Issues that affect the ability of the Public Sectors to deliver on their mandates, (iv) identify gaps to facilitate development of interventions that will enhance the sector's capacities to deliver on their mandate.

**Methodology:** The methodology included regular planning and consultative meetings, extensive review of relevant literature, records review and in-depth interviews with key informants in the sector, cabinet office and cooperating partners

<b>Strategic objective 19</b>	<b>Mainstreaming HIV and AIDS into sector (Private, public and civil society) development policies, strategies plans and budgets</b>
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169.      **TITLE:**     **IMPACT OF HIV/AIDS ON THE JUDICIAL SYSTEM IN THE REPUBLIC OF ZAMBIA**  
**Authors:**                  Feeley F and Mudenda M  
**Year:**                      2006  
**Org/Inst:**                  Boston University USA  
**Status:**                    Published in an Abstract Book, 4<sup>th</sup> National Health Research Conference  
**Study Site(s):**           Lusaka and Ndola  
**Source:**                    Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Description :** Studies in Zambia have shown significant attrition and associated costs from apparent HIV/AIDS infections among government employees in health care (Feeley, et al, 2004) and wildlife protection officers (Rosenj and Hamakaza, 2006). Little has been written on the impact of HIV/AIDS on professionals in the judicial system. Using personnel data from 2000 to 2005, and files for cases originated in 2000, the authors conducted a two pronged study of the impact of HIV/AIDS in the Zambian judicial system.

They looked at deaths among professionals working in the Zambian judicial system, and at the effect of death/illness on the time to case resolution. Chronic disease attrition among professionals in the courts was 4.4% per year, a quarter of all losses. In the police prosecution service, 20% of all attrition was due to chronic disease deaths. The average age at death for professionals in the judicial system was 34.3 years, even younger than that observed in a previous study of Zambian health professionals, and strong evidence that most of the deaths are due to AIDS, not the degenerative diseases of aging.

**Results:** In a sample of 1,040 cases filed in 2000 in the Magistrate and High Courts in Lusaka and Ndola, 8% of cases experienced one or more adjournments due to illness or death of a party. A quarter of these adjournments were due to the illness or death of the judge/magistrate or an attorney. Cases with an illness-related adjournment took 10 months to resolve, twice the average for cases with no illness related adjournment. If one of the parties died, cases took almost 17 months to resolve. The study showed that illness is contributing to delays in the administration of justice in Zambia.

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170.	<b>TITLE:</b> <b>MAINSTREAMING HIV AND AIDS INTO PARLIAMENTARY DIMENSIONS FOR FORWARD LOOKING STRATEGIES THAT COULD ENHANCE COMMITMENT, ACCOUNTABILITY AND TRANSPARENCY IN THE SOUTHERN AFRICAN REGION</b> <b>Authors:</b> Dawson B. <sup>1</sup> , Sekgoma B. <sup>2</sup> <b>Year:</b> 2005 <b>Org/Inst:</b> <sup>1</sup> National Democratic Institute for International Affairs and the <sup>2</sup> SADC Parliamentary Forum <b>Status:</b> Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDE0607 <b>Study Site(s):</b> Mozambique, Namibia, and Zambia. <b>Source:</b> AIDS 2006 - XVI International AIDS Conference: Abstract no. CDE0607
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**Issues:** The SADC Parliamentary Forum considers the absence of consistent and harmonious parliamentary engagement in the review and implementation processes of HIV and AIDS commitment as a critical missing link in SADC response to firmly combat the HIV and AIDS epidemic. Yet this is essential for the successful, sustainable institutionalization of political leadership by Southern African countries.

**Description:** In an effort to better understand how legislatures are responding to the HIV and AIDS crisis and to identify areas where robust responses can be tailored for legislatures response the National Democratic Institute for International Affairs and the SADC parliamentary Forum conducted outreach to gain an enhanced understanding of current and past initiatives that are being conducted by Members of parliament in Mozambique, Namibia, and Zambia.

**Lessons learned:**

- \* A well functioning parliament is critical in situations where policy and legislation reform on HIV and AIDS has to be developed.
- \* Empowered Parliaments are effective watchdogs to support issue based political deliberations on HIV and AIDS.
- \* Parliaments have a crucial role in preventing escalating numbers of infections, in universal access to treatment.

**Recommendations:** HIV and AIDS programmes at country level need to enhance the ability of legislators to serve as leaders and reach out to citizen on HIV and AIDS issues.

- \* There is need to strengthen the interface between parliament and civil society.
- \* Interventions that are developed to combat HIV and AIDS need to keep pace with the political developments and political context of a country.

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171.	<b>TITLE:</b>	<b>THE ECONOMIC IMPACT OF AIDS ON THE EDUCATION SECTOR OF ZAMBIA: APPLICATION OF THE ED-SIDA MODEL</b>
	<b>Authors:</b>	Desai K <sup>1</sup> , Grassly N <sup>1</sup> , Drake <sup>1</sup> <i>et al</i>
	<b>Year:</b>	2000-2010
	<b>Org/Inst:</b>	<sup>1</sup> Imperial College, London, United Kingdom
	<b>Status:</b>	Published in the Abstract Book for the 2002 XIV International AIDS Conference Abstract no. C11067
	<b>Study Site(s):</b>	National
	<b>Source:</b>	Abstract Book of the 2002 XIV International AIDS Conference Abstract no. C11067

**Background:** Evidence suggests that teachers in Zambia (20% prevalence) are dying faster than new ones can be trained. Thus impact of HIV/AIDS can be seen to affect supply of education, impairing national Education For All (EFA) goals. We model how AIDS affects the primary teacher population and determine the economic impact AIDS has had on the Ministry of Education (MoE) of Zambia.

**Methodology:** A flexible spreadsheet based compartmental model called Ed-Sida projects number of teachers and HIV status to 2010 by capturing the dynamics of the teacher population in terms of recruitment, retirement, HIV infection and death. HIV incidence is based on Zambia-specific estimates of adult prevalence from HIV sentinel surveillance sites. Data for teacher numbers and recruitment were obtained from the MoE and Teacher Training Colleges. The model outputs teacher numbers to 2010, required recruitment levels relative to EFA goals, and teacher losses and absenteeism due specifically to HIV/AIDS. Costs of teacher training and salaries and sensitivity analyses allowed estimation of the economic impact of AIDS from the perspective of MoE.

**Results:** Current primary teacher population numbers 37500 of which 7,900 are estimated to be HIV positive. The estimated number of primary school teachers who died from AIDS in 2000 is 815, corresponding to 45% of all teachers trained that year. This figure will grow to 1250 by year 2010. MoE must double its annual teacher output from training colleges (already implemented as new initiative) to meet EFA goals. The major projected financial cost to 2010 associated with HIV/AIDS occurs at the level of teacher training (US\$15,045,000; 61%) followed by absenteeism (US\$8,097,000; 33%).

**Conclusions:** A proper understanding of the impact of HIV/AIDS on education in Zambia is necessary to mitigate the shortfall of required qualified teachers, meet the real costs of facing AIDS in education, and assure EFA goals.

**Strategic objective 20:** *Develop and implement comprehensive workplace policies that take into consideration issues around education, awareness and prevention, treatment, care and support*

172.	<b>TITLE:</b> HIV/AIDS PREVENTION AND CARE AT INDENI <b>Authors:</b> Indeni HIV/AIDS Prevention and Care Project <b>Year:</b> 2006 <b>Org/Inst:</b> Indeni Petroleum <b>Status:</b> Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference <b>Study Site(s):</b> Ndola <b>Source:</b> Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.
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**Methodology:** A standard questionnaire was designed and distributed to all employees through their respective Departments/sections. The questionnaire called for honest responses to all questions, no name was required.

**Results of Data Analysis:** Data analysis covered demographical information, knowledge/information levels on VCT, and reasons for not taking an HIV test, necessity of taking a test, awareness about workplace HIV/AIDS policy, VCT centre, family involvement, and performance of peer educators.

**Objectives:** To establish employees' level of awareness on HIV/AIDS; to establish employees' attitude towards VCT; to establish levels of stigma associated with HIV/AIDS; to evaluate activities of workplace peer educators.

**Conclusion:** Confidentiality, stigma and discrimination are one area employees felt needed further reassurance from management; through the Company policy on HIV/AIDS was in place, a good number of employees had read and understood it; There is need for the Company to arrange different Clinics to dispense ARVs to infected employees/family members; More campaign is needed in order to influence behavioural change; There is need to scale-up community activities to reach out family members of employees.

Funding sources: Zambia National AIDS Network (ZNAN)

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173.	<b>TITLE:</b> PREVENTING HIV/AIDS TRANSMISSION IN THE ZAMBIA DEFENCE FORCE <b>Authors:</b> Makwala C, Sinyangwe F and Kabwe <i>et al</i> <b>Year:</b> 2003 <b>Org/Inst:</b> Zambia Defence Force <b>Status:</b> Published in The XV International AIDS Conference: Abstract no. C10646 <b>Study Site(s):</b> Lusaka, Zambia <b>Source:</b> The XV International AIDS Conference: Abstract no. C10646
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**Issues:** In Zambia, where an estimated 16% of people between 15 and 49 years are infected with HIV, the prevalence of HIV/AIDS is already among the highest in the world. Although data are not widely available, sources in the Zambian uniformed services believe that the HIV/AIDS prevalence rate among their ranks is significantly higher. A variety of factors contribute to this phenomenon, including frequent and extended periods of separation from spouses or partners, the stressful nature of work, a risk taking ethos, access to disposable income, and relatively higher frequency of contact with sex workers.

**Description:** In January 2003, the Zambia Defence Force embarked on an intensive and innovative program to reduce HIV transmission among Army, Air Force, and National Service personnel, their children, and their spouses, including training of personnel in HIV/AIDS program management and design, training in STI management, initiating model VCT services, and various behaviour change communication strategies, including peer

education, education through theatre, song, and dance, and distribution of adapted written IEC materials.

**Lessons learned:** This hard-to-reach but highly vulnerable group has been successfully reached through a core team of ZDF trainers, clinical service providers, and peer educators. Senior ZDF leaders are increasingly aware of and committed to tackling HIV/AIDS among the ranks.

**Recommendations:** Key next steps include intensified advocacy at the command level, greater involvement of HIV-positive ZDF personnel, and addressing policy issues that facilitate transmission.

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174.	<b>TITLE:</b> <b>WHEN SCALING-UP IS THE ONLY ALTERNATIVE: EXPERIENCE WITH WORKPLACE HIV PROGRAMS IN ZAMBIA</b> <b>Authors:</b> Nyumbu M, Lungu R. and Mutonyi S. <b>Year:</b> 2006 <b>Org/Inst:</b> Zambia Integrated Health Programme (ZIHP) <b>Status:</b> Published <b>Study Site(s):</b> National <b>Source:</b> Zambia Integrated Health Programme (ZIHP)
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In Zambia as elsewhere, HIV affects people during their most productive years and 16 percent of Zambians between ages 15 and 49 are infected with the virus. Thus, HIV and AIDS have had a significant impact on the country's workforce across sectors. Workplace programs have long been recognized as an integral part of a comprehensive national response to HIV and AIDS. JSI launched the workplace program FACEAIDS in 2001. By 2005, private-sector workplace programs had expanded to 121 workplaces in 37 districts, covering all 9 provinces and reaching over 50,000 employees.

**Measuring Progress and Determining Impact:** Impact under ZIHP was measured by a baseline survey conducted in 1999 and an end-of-project (EOP) survey conducted in 2003. Process-Level

**Results:** Expanded the private sector workplace program from 4 workplaces in 3 districts and one province, reaching a workforce of 474 employees (under ZIHP, 2001), to 121 workplaces in 37 of Zambia's 72 districts, covering all 9 provinces and reaching more than 50,000 employees. In JSI's experience, the following are the most important steps to starting a workplace program: Ensure managers feel a need for the program, Gain total commitment from management, Sign an MOU with management, Create a sense of ownership, Develop an organizational policy and Develop an implementation plan, Implement, monitor, and evaluate workplace programs have become an essential part of a comprehensive national response to HIV and AIDS in Zambia. Through ZIHP and now SHARe, JSI has made significant contributions to the development of effective workplace programming. Our workplace programs continue to grow and draw interest from employers. In spite of this, there are some employers who are not yet interested. As the epidemic's impact deepens, however, demand is expected to increase. As employers observe other companies implement successful workplace programs, pressure and policy requirements from parent companies and the unrelenting toll of death and absenteeism on productivity will leave Zambia's institutions and companies unable to ignore the needs of their employees any longer. Innovative ways must be found to meet this demand. One way forward might be to franchise the FACEAIDS program, allowing local NGOs to carry out workplace programs using this successful model in areas of Zambia that have not yet been reached.

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175.	<b>TITLE:</b> <b>COMMUNICATION TOOLS USED AND THEIR HIV/AIDS PERCEIVED EFFECTIVENESS IN DISSEMINATING MESSAGES FOR THE WORKFORCE IN ZAMTEL</b> <b>Authors:</b> Nyundu W <b>Year:</b> 2007 <b>Org/Inst:</b> The University of Zambia <b>Status:</b> Published <b>Study Site(s):</b> Zamtel Lusaka <b>Source:</b> The University of Zambia
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**Objective:** The study intended to establish the communication tools used and their perceived effectiveness in disseminating HIV/AIDS messages for the workforce in Zamtel. For that reason, the report presents communication tools used such as workshops, seminars, magazines distribution, health talks, interpersonal communication and electronic media to disseminate HIV/AIDS information to employees.

The findings showed that the majority of the respondents, 69.1 percent, revealed that the HIV/AIDS communication dissemination methods used by Zamtel were effective but the degree of effectiveness varied. Ultimately, the report presents recommendations for the future basing on the analysis of the findings of the study. Among the recommendations are that, Zamtel to seriously train peer educators among employees who will confidently and effectively disseminate HIV/AIDS information, Zamtel to use employees who have opened up living with HIV/AIDS to give testimony to help in behavioural change and also Zamtel to incorporate HIV/AIDS information during departmental meetings with staff.

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176.	<b>TITLE:</b> <b>PRINT MEDIA JOURNALISTS' INADEQUACIES IN THE COVERAGE OF HIV/AIDS</b> <b>Authors:</b> Njungu L H <sup>1</sup> , Mulokela L <sup>2</sup> <b>Year:</b> 2003 <b>Org/Inst:</b> <sup>1</sup> Zambia Institute of Mass Communication, Lusaka, Zambia; <sup>2</sup> National College For Development & Management Studies, Kabwe, Zambia <b>Status:</b> Published in and Abstract Book of the XV International AIDS Conference: Abstract no. WePeE6701 <b>Study Site(s):</b> - <b>Source:</b> The XV International AIDS Conference: Abstract no. WePeE6701
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**Background:** The Print media in Zambia is predominantly newspapers, some of which are dailies and others weekly. Recently, a study was undertaken to evaluate the depth of HIV/AIDS coverage by print media journalists in Zambia and critically assess whether their articles were issue oriented and of intrinsic value.

**Methodology:** The study confined itself to stories in six leading popular newspapers in the country. It analysed the articles (News, features, editorials and columns etc.) written by these local journalists and featured between June 2002 and June 2003. The content analysis, among many other things, focused on: (i) Story depth (ii) Application of interpretative reporting (ii) Accuracy (iii) Inherent reader value (iv) Topicality etc.

**Results:** During the period under review, there wasn't adequate and effective reportage of HIV/AIDS. Over 80 percent of locally written articles were devoid of issues. The articles in

general did not address issues that were of intrinsic value to the readers. Many local articles were event driven; meaning it was mere reportage of so and so has said this and that or so and so has done this or that. There was negligible deliberate effort on the part of journalists to generate own HIV/AIDS stories. Some articles exposed author's scanty knowledge of the epidemic while others lagged far much behind in terms of keeping up to date with modern advancements regarding the pandemic. Interpretative reporting for the sake of facilitating reader comprehension of issue at hand was almost non-existent.

**Conclusion:** Local print journalists' participation in the fight against HIV/AIDS is below par and needs to be jacked up. Zambian Journalists should be an essential part of the solution to the HIV/AIDS pandemic. However, this can only be guaranteed by deliberately training them in this field.

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177.	<b>TITLE:</b>	<b>THE ENCOUNTER BETWEEN SPORT AND HIV/AIDS: CRITICAL VIEW POINTS ON THE USE OF SPORT AS A VEHICLE FOR ADDRESSING HIV/AIDS</b>
	<b>Authors:</b>	Mwaanga O. <sup>1</sup> , Siyakutela G. <sup>2</sup> , Mwansa K. <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2004
	<b>Org/Inst:</b>	EduSport Kicking AIDS Out
	<b>Status:</b>	Published in an Abstract Book for the <i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. THPE0424
	<b>Study Site(s): -</b>	
	<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. THPE0424

**Issues:** Despite the growing popularity of the use of sport to address and minimize the impact of HIV/AIDS, our understanding of the processes that underlying such interventions are still in their infancy. This area, also called Kicking AIDS Out, remains dominated by activities based on unquestioned and uncritical assumptions of the efficacy of sport in addressing HIV/AIDS. With a realistic framework, I conceptualizing the use sport for addressing AIDS drawing upon relevant social theories and concepts as well as building on the my expertise in using sport for addressing HIV/AIDS for over 10 years now. Therefore I provide a critical case study of a holistic and comprehensive sport for addressing AIDS program in Zambia, drawing on longitudinal case studies of the various programmes, document analysis and interviews and focus groups with young Kicking AIDS Out practitioners.

**Description:** The EduSport Kicking AIDS Out program has been in operation since 1998. The program is unique in far as it tries to deliver AIDS-related interventions at all levels where it is needed. The program also relates to the broader context (beyond the ABCs) to include poverty, school education, gender equity and empowerment. The main delivery methodology for this program is the peer coaching (education).

**Lessons learned:** Programs are successful when the sports people are willing to develop their HIVAIDS competence; to partner with non-sport partners involved in matters relating to HIV/AIDS and when the programs address broader concerns; use local wisdom and are culturally appropriate. Long term interventions are better in building community awareness and sustaining individual behaviour change relating to HIV/AIDS. When carefully used, sport can deliver AIDS-related interventions at all levels where it is needed.

**Recommendations:** We need to conceptualise and provide evidence for sport as intervention for addressing HIV/AIDS. This will require more research and giving front liners a better platform to share their experiences.

**Strategic objective 21: *Support the development of workforce development strategies which prioritize the key sectors critical to the response to HIV and AIDS***

178.	<b>TITLE:</b> ASSESSING NEEDS FOR HIV/AIDS WORKPLACE PROGRAMME <b>Authors:</b> Kalwani R, Sinyangwe G, Lungu R <b>Year:</b> 2001 <b>Org/Inst:</b> The Zambia Integrated Health Programme (ZIHP) <b>Status:</b> Published in The XV International AIDS Conference: Abstract no. D12798 <b>Study Site(s):</b> Lusaka, <b>Source:</b> The XV International AIDS Conference: Abstract no. D12798
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**Background:** The Zambia Integrated Health Programme (ZIHP) acknowledges the HIV/AIDS pandemic within its midst. It has responded by forming an HIV/AIDS workplace programme through activities like training of counsellors, flexible working time and provision of ARVs. Despite these activities, the workplace program suffered as there was no designated staff to move the implementation of activities. A team, with a leader who is open about her positive status, was then identified to manage the workplace programme. With the HIV/AIDS workplace policy and team in place, a study was then undertaken to come up with specific staff needs in-order to determine the best activities that would meet these needs. The objectives were to assess the HIV/AIDS needs of the members of staff within ZIHP and determine what individual members of staff can contribute.

**Methodology:** The study, purposive in nature, used a qualitative self administered questionnaire with both open and closed questions. The open ended questions enabled respondents to express their views regarding the topic in question. 78 members of staff were included regardless of their area of specialisation. Of these, 40 questionnaires were collected. One questionnaire was not entered due to error. Data entry was done using Microsoft Excel.

**Results:** 89.7% were aware of the workplace policy and team. 94.9% were aware of counsellors and 20.5% were very likely to seek services from counsellors, 28.2% were likely. 25.6% were unlikely and very unlikely. 64% would like to seek counselling outside ZIHP and 31% within ZIHP by ZIHP counsellors, 5% would like to access counselling outside ZIHP by ZIHP counsellors. Staff further indicated activities to be implemented.

**Conclusion:** There is need to strengthen the available services, reviewing the counselling strategy, promotion of peer driven activities and sharing organizational experiences and lessons learnt with other organizations. There is also the need to continuously document lessons, experiences and challenges within the workplace programme.

179.	<b>TITLE:</b> FROM KNOWLEDGE/ATTITUDES TO PRACTICES: M&E FOR HIV/AIDS WORK WITH POLICE OFFICERS IN ZAMBIA <b>Authors:</b> Nkhoma S <sup>1</sup> , Bhatt P <sup>1</sup> , Khan N. <sup>1</sup> , <i>et al</i> <b>Year:</b> 2005
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<b>Org/Inst:</b>	The Support to HIV/AIDS Response (SHARe) project in Zambia
<b>Status:</b>	Published in the Abstract Book <i>AIDS 2006 - XVI</i> International AIDS Conference Abstract no. THPE0802
<b>Study Site(s):</b>	National
<b>Source:</b>	<i>AIDS 2006 - XVI</i> International AIDS Conference: Abstract no. THPE0802

**Background:** Empirical evidence indicates that uniformed personnel are seriously affected by HIV/AIDS. While HIV/AIDS education, prevention and care programs have been mounted for police few programs have monitored their impact on police legal and ethical practices in the context of HIV/AIDS. The Support to HIV/AIDS Response (SHARe) project in Zambia systematically monitored the impact of its training program for police.

**Methodology:** SHARe in conjunction with Zambia AIDS Law Research and Advocacy Network (ZARAN) conducted 20 three day workshops reaching more than 300 police officers across Zambia. The workshops covered HIV/AIDS facts, HIV/AIDS occupational and personal risks, universal precautions, stigma and discrimination and the role of police officers in protecting human rights in the context of HIV/AIDS. A KAP survey was administered at the beginning and end of each workshop.

**Results:** The findings indicated an increase in police officers HIV/AIDS knowledge. Before the workshops 86 % of police officers could identify three main ways through which HIV is transmitted. This increased to 99% with insignificant differences between genders. Knowledge on human rights and ethics in the context of HIV/AIDS increased after the training from 70% to 95%. 70% were not in favour of HIV+ officers going for peacekeeping missions because of perceptions that such officers would fall ill during the missions before the workshops, this changed to 90% in favour after the workshops.

**Conclusions:** KAP scores were high before the workshops. They increased further after the workshops suggesting a shift in additional work on police policies while recognizing the importance of repetition and reinforcement of KAP work. Further suggestions included formalizing AIDS policies for police, supporting the police victims support unit and applying the police code-of-ethics in the context of HIV/AIDS. Support in monitoring and evaluating peer education campaigns that officers have initiated as a result of the workshops was another suggestion.

<b>180.</b>	<b>TITLE:</b>	<b>GENDER IN THE ERA OF HIV/AIDS: FEELINGS OF ZAMBIAN HOSPITAL WORKERS</b>
	<b>Authors:</b>	Nyumbu M <sup>1</sup> , Kiragu K <sup>2</sup> , Ngulube T. J <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	
	<b>Status:</b>	Published in an Abstract Book of the XV International AIDS Conference: Abstract no. D12858
	<b>Study Site(s):</b>	Five large hospitals in Zambia
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. D12858

**Background:** Gender-related factors normally shape the extent to which men and women become vulnerable to HIV infection, and in the ways in which AIDS affects them and the kind of response they give. In Zambia, cultural and economic factors make gender based inequalities more pronounced. This study set to establish whether gender based inequalities exists among hospital workers.

**Methodology:** 30 FGDs were conducted in five large hospitals in Zambia. More than 150 staff were interviewed. These included health and non-health workers. FGDs were conducted separately for men and women. Various aspects of HIV/AIDS as it affects hospital workers were explored. This paper only discusses the views of hospital workers on Gender issues as it relates to HIV/AIDS.

**Results:** Respondents felt that male and female hospital workers with HIV/AIDS, were treated the same by colleagues and management. Although both female and male hospital workers are affected by HIV/AIDS in the same manner, the difference, according to respondents was at the time of illness. A wife nurses the man when he is sick whereas the mother or auntie will have to nurse the woman. The sick woman has to continue doing her daily chores such as cooking. On the question of domestic violence and wife battering for refusing to have sex with the husband; all respondents felt it was not right. However, examples that were given showed otherwise. Women were beaten for demanding to use a condom after the husband was unfaithful. Some felt there was justification for beating the woman if she refuses to have sex with the husband.

**Conclusion:** Culture has a very strong influence on how hospital workers think and do things. Their views on Gender issues are a reflection of what the general public thinks and what culture dictates. Thus even though it is assumed that health workers are more sophisticated than the general public, the data suggests a need for programs that can help them deal with these strong cultural influences.

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### 3.5 THEME V. IMPROVING THE MONITORING OF THE MULTI-SECTORAL RESPONSE

The overall objective under the theme of **Improving the Monitoring of the Multi-Sectoral Response** is to improve the capacity of all partners to use monitoring and evaluation information for decision making and strengthening effectiveness and efficiency of services delivery, including operational research, financial resources monitoring and performance management mechanisms. Strategic objectives under this theme include:

- i. Strengthen mechanisms and systems for monitoring and evaluation of the mutisectoral response
- ii. Improve capacity of implementing partners for monitoring and evaluation of the situation and the response
- iii. Strengthen operational and behavioural research and access to information on best practices and cost effective interventions

This section consists of abstracts that address the fore-going strategic objectives

***Strategic objective 22: Strengthen mechanisms and systems for monitoring and evaluation of the mutisectoral response***

181.	<b>TITLE:</b> <b>IMPACT OF AIDS ON ZAMBIA'S TOURISM INDUSTRY: THE CASE OF LIVINGSTONE</b> <b>Authors:</b> Rosen S. <sup>5</sup> , Hamazakaza P. <sup>6</sup> and L. Long <sup>1</sup> <b>Year:</b> 2005 <b>Org/Inst:</b> Center for International Health and Development (CIHD), Boston University, Boston, MA, USA and Farming Systems Association of Zambia, Lusaka, Zambia <b>Status:</b> Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference <b>Study Site(s):</b> Livingstone <b>Source:</b> Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.
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**Objectives:** The study sought to answer four questions; (1) is HIV/AIDS reducing labour productivity in the tourism sector in Livingstone? (2) Is HIV/AIDS increasing labour costs in the tourism sector in Livingstone? (3) What are the net benefits or costs of providing

treatment for AIDS to tourism sector employees? (4) What opportunities exist for mitigating the impact of AIDS on tourism sector development?

**Methodology:** The study collected data from two sources. First, detailed human resource and financial data were collected from Sun International, the largest employer in Livingstone. These data were used to estimate the costs of HIV/AIDS-related medical care, termination benefits, funerals, and recruitment and training of replacement workers and to model the potential net benefits of providing treatment with antiretroviral drugs. Second, a survey was conducted of small and medium enterprises in the tourism industry in Livingstone to ascertain the impact of HIV/AIDS on SMEs and the responses of SMEs to the epidemic.

**Results:** HIV prevalence among tourism industry employees in Livingstone was estimated at 37 percent. The total cost to Sun International for each employee lost due to AIDS averages 3 to 4 times the annual compensation received by the employee. If no employees had access to effective treatment, AIDS would be causing a loss of roughly 3.4 percent of the company's employees per year and an 11% increase in the cost of labour to the company. Since many employees do have access to antiretroviral therapy, however, actual mortality and costs are much lower. Provision of antiretroviral therapy would be a profitable investment for the company at all job levels. In the surveyed SMEs, overall annual attrition of permanent employees averaged 12.4% in the year preceding the survey, with 15% of the staff attrition being attributed to ill health or death. Loss of an employee to AIDS cost the SMEs, on average, the equivalent of one year's annual salary. SME managers reported losing few employees to AIDS, however, and fully two thirds of them stated that AIDS is currently having little or no impact on their companies. Most SMEs were involved in at least one HIV-related prevention or care activity but spend relatively money on it.

<b>182. TITLE:</b>	<b>THE COMBINED EFFECT OF TREATMENT EFFICACY AND POPULATION COVERAGE ON PREVENTING MOTHER TO CHILD TRANSMISSION OF HIV</b>
<b>Authors:</b>	Megazzini K, Sinkala M and Chi B <i>et al</i>
<b>Year:</b>	2001
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia (CIDRZ)
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Methodology:** We have modelled the number of infant HIV infections prevented in a hypothetical cohort of 10,000 HIV-infected, pregnant, Zambian women considering three different antiretroviral regimens and a range of achievable population coverage rates. The regimens compared are: (1) single dose nevirapine (SD NVP); (2) combination zidovudine-nevirapine beginning at 36 weeks of gestation (ZDV 36-NVP) and (3) combination zidovudine-nevirapine beginning at 28 weeks of gestation (ZDV 28-NVP). We have identified the lower population coverage threshold which must be achieved by the combination zidovudine-nevirapine regimens to prevent as many infant infections as are currently prevented by single dose nevirapine.

**Results:** A range of infant HIV infections can be averted in a hypothetical cohort of 10,000 HIV-infected, pregnant, Zambian women depending upon the efficacy of the antiretroviral regimen used and the level of population coverage achieved. Given the known efficacy of

SD NVP (i.e., 47%) and the 2003 population coverage level in Lusaka (i.e., 30%), 353 new infant HIV infections were being prevented out of a possible 2,500 infections in 2003. An absolute coverage threshold of 20.0% must be achieved with the ZDV 36-NVP regimen and 15% with the ZDV 28-NVP regimen in order for these regimens to prevent as many infant infections as SD NVP at a population coverage level of 30%.

**Conclusions:** The advent of more complex and efficacious antiretroviral regimens has challenged the continued use of single dose nevirapine to prevent vertical transmission of HIV. Superior efficacy may not always translate into fewer infant HIV infections if the complexity of the antiretroviral regimen used severely compromises population coverage. This may be particularly true in resource poor environments.

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- 183. TITLE:** **PREVALENCE AND DISTRIBUTION OF HPV-GENOTYPING AMONG HIV-INFECTED WOMEN IN ZAMBIA.**
- Authors:** Sahasrabuddhe V. V, Mwanahamuntu MH, Vermund SH *et al*
- Year:** 2006
- Org/Inst:** Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Zambia, University Teaching Hospital, University of Alabama at Birmingham
- Status:** Published as manuscript in *Br J Cancer* 2007
- Study Site(s):** Lusaka
- Source:** *Br J Cancer* 2007; 96(9): 1480-3.

We screened 145 HIV-infected non-pregnant women at a tertiary care centre in Lusaka, Zambia. Liquid-based cytology and human papillomavirus (HPV) genotyping with PGMY09/11 biotinylated primers (Roche Linear Array HPV genotyping test) maximised sensitivity of cytology and HPV assessments. Among high-risk (HR) types, HPV 52 (37.2%), 58 (24.1%) and 53 (20.7%) were more common overall than HPV 16 (17.2%) and 18 (13.1%) in women with high-grade squamous intraepithelial lesions or squamous cell carcinoma (SCC) on cytology. High-risk HPV types were more likely to be present in women with CD4+ cell counts <200 microl(-1) (odds ratios (OR): 4.9, 95% confidence intervals (CI): 1.4-16.7, P=0.01) and in women with high-grade or severe cervical cytological abnormalities (OR: 8.0, 95% CI: 1.7-37.4, P=0.008). Human papillomavirus diversity in high-grade lesions and SCC on cytology suggests that HPV 16- and 18-based vaccines may not be adequately polyvalent to induce protective immunity in this population.

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- 184. TITLE:** **PRIORITIES FOR ANTIRETROVIRAL THERAPY RESEARCH IN SUB-SAHARAN AFRICA: A 2002 CONSENSUS CONFERENCE IN ZAMBIA**
- Authors:** Zulu I<sup>1,2,3</sup>, Schuman P<sup>4</sup>; Musonda R<sup>5,6</sup> *et al*
- Year:** 2002
- Org/Inst:** <sup>1</sup>University Teaching Hospital, Zambia, <sup>2</sup>University of Zambia School of Medicine, Zambia, <sup>3</sup>Centre for Infectious Disease Research in Zambia, <sup>4</sup>William Beaumont Research Institute, Royal Oak, MI, ETATS- UNIS, <sup>5</sup>Tropical Disease Research Centre, Ndola, Zambia, <sup>6</sup>National AIDS Control Programme, Lusaka, Zambia

**Status:** Published in the Journal of acquired immune deficiency syndromes  
**ISSN**  
**Study Site(s):** Lusaka  
**Source:** Journal of acquired immune deficiency syndromes 1525-  
 4135, 2004, vol. 36, no3, pp. 831-834 [4 page(s) (article)] (20 ref.)

**Background:** A consensus conference was held to discuss priorities for antiretroviral therapy (ART) research in Zambia, one of the world's most heavily HIV-afflicted nations. Zambia, like other resource-limited settings, has increasing access to highly active antiretroviral therapy (HAART) because of declining drug costs, use of government-purchased generic medications, and increased global donations. For sustained delivery of care with HAART in a resource-constrained medical and public health context, operational research is required and clinical trials are desirable. The priority areas for research are most relevant today given the increasing availability of HAART.

**Methods:** A conference was held in Lusaka, Zambia, in January 2002 to discuss priority areas for ART research in Zambia, with participants drawn from a broad cross section of Zambian society. State-of-the-art reviews and 6 intensive small group discussions helped to formulate a suggested research agenda.

**Results:** Conference participants believed that the most urgent research priorities were to assess how therapeutic resources could be applied for the greatest overall benefit and to minimize the impact of nonadherence and viral resistance. Identified research priorities were as follows:

- i. To determine when to initiate HAART in relation to CD4+ cell count
- ii. To assess whether HIV/AIDS can be managed well without the use of costly frequent viral load measurements and CD4+ cell count monitoring
- iii. To assess whether HIV/AIDS can be managed in the same fashion in patients coinfected with opportunistic infections such as tuberculosis and HIV-related chronic diarrhea, taking into consideration complications that may occur in tuberculosis such as immune reconstitution syndrome and medication malabsorption in the presence of diarrhea
- iv. To carefully assess and characterize toxicities, adverse effects, and viral resistance patterns in Zambia, including studies of mothers exposed to prepartum single-dose nevirapine
- v. To conduct operational research to assess clinical and field-based strategies to maximize adherence for better outcomes of ART in Zambia
- vi. To assess ART approaches most valuable for paediatric and adolescent patients in Zambia Conference participants recommended that HIV-related clinical care and research be integrated within home-based care services and operated within the existing health delivery structures to ensure sustainability, reduce costs, and strengthen the structures.

**Conclusion:** Our consensus was that antiretroviral clinical trials and operational research are essential for Zambia to address the new challenges arising from increasing ART availability. There is global consensus that antiretroviral clinical trials in resource-constrained countries are possible, and the capacity for such trials should be developed further in Africa.

185.	<b>TITLE:</b>	<b>A REVIEW OF POLICIES, GUIDELINES AND PROGRAMS IN VOLUNTARY COUNSELING AND TESTING (VCT) IN EAST, CENTRAL, AND SOUTHERN AFRICA (ECSA)</b>
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**Authors:** Ndyanabangi B. A  
**Year:** 2003  
**Org/Inst:** -  
**Status:** Published in The XV International AIDS Conference:  
Abstract no. WeOrE1265  
**Study Site(s):** Kenya, Malawi, Uganda, Zambia, and Zimbabwe.  
**Source:** The XV International AIDS Conference: Abstract no.  
WeOrE1265

**Background:** The burden of HIV is beyond what the national health systems in ECSA can handle, and efforts to scale up effective programs have intensified. VCT is recognized as central to combating the epidemic through prevention and care. Access to antiretroviral therapy is increasing; however, only about 10% of people who are infected know their status and can take advantage of therapy. This review provides an overview of VCT policies, programs, and guidelines available in ECSA.

**Methodology:** A study team elicited responses from national AIDS program managers using a detailed questionnaire; they interviewed VCT staff and primary stakeholders, conducted a literature review on VCT in ECSA, and visited program in Kenya, Malawi, Uganda, Zambia, and Zimbabwe.

**Results:** Most HIV testing is initiated not by the client but by employers, insurers, or institutions of higher learning. In their national HIV/AIDS policy documents, ECSA countries recognize that VCT is critical to controlling HIV/AIDS, but only Botswana, Mauritius, Uganda, and Zimbabwe have national VCT policies. Most of the guidelines were developed by nongovernmental organizations and are not comprehensive. Except in Kenya, and soon, Malawi, Swaziland, and Uganda, no guidelines cover all aspects of VCT. Except for Mauritius and Seychelles, where VCT services are offered in integrated sites, countries are using a combination of VCT models and integrating VCT into other health services.

**Conclusions:** Issues that lend themselves to regional collaboration include harmonization of policies; guidelines for counselling, testing, data collection, and training curricula; procurement of test kits; and resource mobilization. Other issues include creating awareness and demand for VCT, strengthening human resources and infrastructure, and ensuring high quality service. The focus will be on scaling up and providing high-quality VCT service, strengthening post-test support services, and monitoring the quality of care.

**186. TITLE:** FAVORABLE AND UNFAVORABLE HLA CLASS I ALLELES AND HAPLOTYPES IN ZAMBIANS PREDOMINANTLY INFECTED WITH CLADE C HUMAN IMMUNODEFICIENCY VIRUS TYPE 1

**Authors:** Jianming T<sup>1</sup>, Shenghui T<sup>1</sup>, Elena L<sup>2</sup> *et al*  
**Year:** 2002  
**Org/Inst:** <sup>1</sup>Departments of Medicine, <sup>2</sup>Epidemiology and International Health, <sup>3</sup>Pediatrics, University of Alabama at Birmingham, Birmingham, Alabama, <sup>4</sup>Tropical Disease Research Center, Ndola, Zambia  
**Status:** Published in the PMID: 8032043 [PubMed - indexed for MEDLINE] Journal of Virology, August 2002, p. 8276-8284, Vol. 76, No. 16  
**Study Site(s):** Lusaka

**Source:** PMID: 8032043 [PubMed - indexed for MEDLINE] Journal of Virology, August 2002, p. 8276-8284, Vol. 76, No. 16

The setpoint of viral RNA concentration (viral load [VL]) during chronic human immunodeficiency virus type 1 (HIV-1) infection reflects a virus-host equilibration closely related to CD8+ cytotoxic T-lymphocyte (CTL) responses, which rely heavily on antigen presentation by the human major histocompatibility complex (MHC) (i.e., HLA) class I molecules. Differences in HIV-1 VL among 259 mostly clade C virus-infected individuals (137 females and 122 males) in the Zambia-UAB HIV Research Project (ZUHRP) were associated with several HLA class I alleles and haplotypes. In particular, general linear model analyses revealed lower log<sub>10</sub> VL among those with HLA allele B\*57 ( $P = 0.002$  [without correction]) previously implicated in favourable response and in those with HLA B\*39 and A\*30-Cw\*03 ( $P = 0.002$  to 0.016); the same analyses also demonstrated higher log<sub>10</sub> VL among individuals with A\*02-Cw\*16, A\*23-B\*14, and A\*23-Cw\*07 ( $P = 0.010$  to 0.033). These HLA effects remained strong ( $P = 0.0002$  to 0.075) after adjustment for age, gender, and duration of infection and persisted across three orders of VL categories ( $P = 0.001$  to 0.084). In contrast, neither B\*35 ( $n = 15$ ) nor B\*53 ( $n = 53$ ) showed a clear disadvantage such as that reported elsewhere for these closely related alleles. Other HLA associations with unusually high (A\*68, B\*41, B\*45, and Cw\*16) or low (B\*13, Cw\*12, and Cw\*18) VL were either unstable or reflected their tight linkage respecting disequilibria with other class I variants. The three consistently favourable HLA class I variants retained in multivariable models and in alternative analyses were present in 30.9% of subjects with the lowest (<10,000 copies per ml) and 3.1% of those with the highest (>100,000) VL. Clear differential distribution of HLA profiles according to level of viremia suggests important host genetic contribution to the pattern of immune control and escape during HIV-1 infection.

<b>187. TITLE:</b>	NATURAL HISTORY OF HIV IN A COHORT OF RECENTLY POSTPARTUM WOMEN AND THEIR INFANTS IN LUSAKA, ZAMBIA
<b>Authors:</b>	Levy J. W, Kaseba C. M, Matongo I <i>et al</i>
<b>Year:</b>	2004
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University of Zambia, University Teaching Hospital, Zambian Ministry of Health, University of Alabama at Birmingham
<b>Status:</b>	Published in the abstract book of the XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004; Abstract ThPeC7313
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004; Abstract ThPeC7313

**Background:** The natural history of HIV infection in a postpartum breastfeeding population in Zambia is not well described.

**Methods:** As part of a contraceptive clinical trial in Lusaka, Zambia, we prospectively followed HIV-infected women and their infants for up to two years postpartum. Women were enrolled at 6-8 weeks postpartum and those with clinical AIDS were excluded. All women received single-dose NVP for perinatal prophylaxis, but none received antiretroviral treatment of their disease. Maternal deaths were evaluated by verbal autopsy.

**Results:** 599 HIV-infected women were enrolled, 361 had reached the 6 month follow-up and 143 women had reached the one year follow-up at time of analysis. 559 of 599 (93%) of women were breastfeeding. The mean BMI at enrolment was 24.2 (SD 23.9-24.6). The mean CD4 count at the time of enrolment was 505 cells/mm<sup>3</sup> (SD 486-531). 58 women (9.8%) had CD4 less than 200 at enrolment, but no evidence of clinical AIDS. The mean change in BMI over one year was .07 (p=ns). The mean decrease in CD4 count over 1 year was 92 cells/mm<sup>3</sup> (95% CI: 70 -116). 11 maternal deaths had occurred at time of analysis. Women who died had lower enrolment CD4 counts than did survivors, 225 vs. 510 (p<0.001). Verbal autopsy revealed that 5 of 11 (45%) deaths were definitely AIDS related and the remaining 6 were probably AIDS related. At the time of analysis, 41 (6.8%) children had died. Among women with surviving infants, mean CD4 at enrolment was significantly higher than that in women whose infants had died (514 v. 386; p=0.002.) Infant infection status evaluation is ongoing. **Conclusions:** This interim analysis of postpartum women in Zambia suggests high death rates among the women and their offspring and underscores the urgent need for family antiretroviral therapy.

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<b>188. TITLE:</b>	<b>SHORT-TERM SAFETY AND ACCEPTABILITY OF THE INTRAUTERINE CONTRACEPTIVE DEVICE IN HIV-INFECTED POSTPARTUM WOMEN: A RANDOMISED TRIAL.</b>
<b>Authors:</b>	Kaseba CM, Stringer EM, Sinkala M <i>et al</i>
<b>Year:</b>	2004
<b>Org/Inst:</b>	University of Zambia, University Teaching Hospital, Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Alabama at Birmingham
<b>Status:</b>	Published in the abstract book of the XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004; Abstract ThPeB7073.
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	XV International AIDS Conference, Bangkok, Thailand, July 11-16, 2004; Abstract ThPeB7073.

**Background:** The copper intrauterine device (IUD) is among the most effective contraceptives known, but the WHO and others have recommended against its use in HIV-infected women due to a theoretical risk of pelvic inflammatory disease (PID). Most IUD-attributable PID occurs within one month of insertion.

**Methods:** Between Jun \_02 and Oct \_03, we randomised 599 HIV-infected women in Lusaka, Zambia to receive either the IUD (ParaGuard TCu 380A, n=297) or “user’s choice” hormonal contraception (oral or injectable, n=302). Standardized follow-up, including detailed assessment for PID, occurs at 1, 6, 12, 18, & 24 months, and is ongoing. All women have reached the 1 mo visit.

**Results:** At enrolment (4-8 wks postpartum), there were no statistically significant differences between randomization groups in age, parity, income, marital status, education, tribe, BMI, CD4 count, or hematocrit. Mean CD4 for the entire cohort was 505 cells/mm<sup>3</sup> (SD 258). 58 (9.8%) women had CD4 < 200. At 1 month, 1 woman in the IUD arm met criteria for PID compared to 0 in the hormonal arm (p = ns.) The woman with PID presented with abdominal pain and discharge prompting IUD removal. Cultures were + for Chlamydia. The patient received oral antibiotics and did not develop fever. Other reported minor side effects at 1 mo were rare and did not differ by randomization arm (IUD vs. hormonal): abdominal pain (3.8% vs. 2.5%), pelvic pain (0.4% vs. 0%), discharge (2.1% vs. 0.4%), nausea or vomiting (0.7% vs. 0%), irregular bleeding (2.4% vs. 2.5%) or

headache (1.7% vs. 2.5%). 2 patients (1 IUD, 1 hormonal) discontinued contraception after their newborns died. 2 patients randomised to the hormonal arm switched to the IUD arm, and one patient randomised to IUD switched to oral contraceptives. There were no IUD expulsions. 6-month data will be available on all participants in Apr '04.

**Conclusions:** The rate of IUD-attributable PID in HIV-infected women through 1 month of placement was 0.3%. The IUD appears to be a safe and acceptable method of contraception for HIV infected women.

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189.	<b>TITLE:</b> ESTIMATES OF ADULT MORTALITY FROM CENSUS DATA IN ZAMBIA IN THE ERA OF HIV <b>Authors:</b> Dzekedzeke K <sup>1</sup> , Fylkenses K <sup>2</sup> <b>Org/Inst:</b> <sup>1</sup> Central Statistical Office, Lusaka, Zambia and <sup>2</sup> Centre for International Health, University of Bergen, 5021 Bergen, Norway <b>Year:</b> 2002 <b>Status:</b> Published in <i>Int Conf AIDS</i> . 2006 Aug 13-18;16 Abstract No. WePE0366 <b>Study Site(s):</b> Urban and rural communities of Zambia <b>Source:</b> Abstracts Book for the Dissemination Seminar on NUFU project Strengthening HIV-related interventions in Zambia: co-operation in research and institution capacity building" (2002-2006); University of Zambia and University of Bergen
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**Background:** Assess HIV era adult death rates in Zambia with census data.

**Methodology:** Preston-Bennet method that utilises two census age distributions without assuming stability in populations and use of model life tables was used with graduated census data for 1969-1980, 1980-1990 and 1990-2000 intercensal periods. Estimated death rates for adults 15-49 years were evaluated with those from sibling's survival data for 1990-2000 from Zambia Demographic and Health Survey (ZDHS); and from a 1995/96-1998/99 cohort of adults by HIV sero-status in selected communities.

**Results:** Respective Population Attributable Fractions (PAF) due to deaths among infected in cohort and HIV prevalence were: men 59.6% and 19.7% and women 67.3% and 26.7%. Respective total, women and men death rates per 1000 PYO were; in the intercensal periods, 1969-1980: 15.7 and 16.3; 1980-1990: 12.0, 13.6 and 10.1; an 1990-2000: 22.2, 23.2 and 21.1; ZDHS for 1990-1996: 11.0, 10.8 and 11.1; for 1996-2002: 14.6, 15.2 and 14.0; and cohort: 15.6, 17.5 and 12.5. Total death rates were 85% and 40% higher in 1990-2000 than in 1980-1990 and 1969-19980 to 1980-1990.

**Conclusion:** Consistent pattern of estimates by sex irrespective of data source for late 1990s shows plausibility of census estimates. Estimates for the 1990s from ZDHS and cohort were closer but censuses estimates were higher most likely due to biases caused by correlation of siblings' deaths and shorter durations of observation in the surveys. Typically, adult death rates tend to be higher among men than women in 1969-1980 and 1990-1996 but the opposite was the case in the late 90s. Deterioration of death rate and its change in favour of men is likely due to HIV as shown by the lower prevalence and PAF among men than women in the cohort followed up from 1995/96-1998/99.

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190.	<b>TITLE:</b> THE ANNUAL JOINT REVIEW OF ZAMBIA'S NATIONAL AIDS PROGRAMME <b>Authors:</b> Serlemitos E. <sup>1</sup> , Chirwa B.U. <sup>2</sup> , Simwanza A. <sup>2</sup>
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<b>Year:</b>	2005
<b>Org/Inst:</b>	National AIDS Council
<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1413
<b>Study Site(s):</b>	-
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD1413

**Issues:** The Zambian National AIDS Council was established by an act of Parliament in 2002. The Act outlines the establishment of the Council, the Secretariat and the Financial Provisions. The Act also includes a requirement for the Council to submit an annual report of activities. The Council and Secretariat have chosen to conduct an Annual Joint Review of the National AIDS Programme to satisfy the statutory requirement of an annual report.

**Description:** The Joint Review is conducted in March - April and is a process that involves many stakeholders and implementing partners. Teams are formed to conduct field work in various sites throughout the country. The information is then compiled and reported back to a large gathering of representatives from all the District AIDS Taskforces, implementing partners and other stakeholders. The feedback from the dissemination is further compiled into the report that is then submitted to the Cabinet Committee on HIV/AIDS by the June 30th deadline.

**Lessons learned:** By bringing in a broad range of stakeholders, the NAC has achieved a more comprehensive review, which is a positive. A limiting factor has been that such a process is time consuming and requires a high level of human resource inputs to bring it all together. Furthermore, the quality is, on occasion, compromised. This is the price of greater involvement of people from all walks of life, however, the NAC is ultimately engaging more Zambians in the fight against HIV and AIDS. As more Zambians play a direct role in HIV programming, NAC anticipates a more rapid scale up of the response.

**Recommendations:** As a country, Zambia needs to continue to engage in wide participation, but in the process, create more skills building opportunities so the contributions individuals are making at their level become of greater value more quickly.

<b>191. TITLE:</b>	<b>ALLOCATING RESOURCES FOR HIV/AIDS PREVENTION, CARE AND TREATMENT IN ZAMBIA</b>
<b>Authors:</b>	Forsythe S <sup>1</sup> , Chisumpa V <sup>2</sup> , Sikanyiti P <sup>3</sup>
<b>Year:</b>	2004
<b>Org/Inst:</b>	-
<b>Status:</b>	Published in the <i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no.CDD1290
<b>Study Site(s):</b>	-
<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no.CDD1290

**Methodology:** The analysis from this report involves assessing 3 scenarios using the Goals Model (Futures Group). All scenarios assume Zambia will achieve full coverage of HAART, PMTCT and blood screening by 2009. Scenario 1 assumes no growth in prevention spending. Scenario 2 assumes full funding for all interventions. Scenario 3 assumes the 3 interventions are funded plus \$30 million for OVC and prevention.

**Results:** Scenario 1 concludes that resources for HIV/AIDS would need to rise from \$100 million in 2004 to \$260 million per year by 2009. This increase is dominated by treatment, with \$190 million per year consumed by ARV provision by 2009. Zambia reduction in

prevalence is likely to be reversed by the increased access to ARVs (15.4% vs. 13.3% by 2009) due to reduced mortality. In Scenario 2, funding would reach \$442 million by 2009 and there would be almost no reversal in prevalence. Scenario 3 would result in the prevalence of HIV reaching 14.2% by 2009, partially offsetting the rise in HIV prevalence.

**Conclusions:** Resources are assumed to increase 2 ½ to 4 times between 2004 and 2009. Even with such a rise in funding, policymakers must establish clear priorities and understand what is achievable. The results indicate that the prevalence of HIV is likely to rise if Zambia successfully implements its treatment program, suggesting the need to also increase prevention spending so as to increase treatment and restrain prevalence.

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192.	<b>TITLE:</b>	<b>OPERATIONALISING THE THREE ONES IN RESOURCE-POOR SETTINGS: COORDINATING MULTIPLE PARTNERS IN ZAMBIA</b>
	<b>Authors:</b>	Sunkutu K. <sup>1</sup> , Simwanza A. <sup>2</sup> , Sozi C. <sup>3</sup>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	<sup>1</sup> World Bank, <sup>2</sup> National AIDS Council, <sup>3</sup> UNAIDS
	<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0897
	<b>Study Site(s):</b> -	
	<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. WEPE0897

**Issues:** 16% of the adult Zambian population lives with HIV. Subsequently there are numerous local and international actors, (bilaterals, multi-laterals, NGOs, FBOs, CBOs, universities/research institutions, etc). To coordinate the efforts of these parties, the National AIDS Council (NAC) was enacted in December 2002. The NAC chief role is to coordinate the multi-sectoral activities of all stakeholders, based one strategic plan and one M&E Framework. However the coordination efforts and capacities are spent managing numerous individual processes associated with such a diverse group, as well as the reluctance by some players to fit into the common agenda. Consequently, not enough action is realized on the ground. There is no clear and current picture of who is doing what and where. Other coordinating challenges are multiple and diverse training and reporting systems.

Consequently, there is a large disparity between the money spent on programmes and equitable benefits accruing to communities, since there are too many organizations and administrative demands, concentrated mainly in the urban areas at the expense of the rural communities.

**Description:** In order to operationalise the Three Ones:

- a national coordination format addressing priority programmatic and geographical areas was formulated;
- National and sub-National intervention entry points were defined; reporting formats defined;
- Training materials were standardised. These were field tested in 10 sites. Un-linked service availability surveys will be collated to produce a consolidated electronic register for use in directing stakeholders into priority interventions.

**Lessons learned:**

- Simplified, standardised reporting systems reduce workload inadequate human resources demand innovative use of available people and resources

- NAC does not have sub-National representation and cannot physically coordinate at such levels.
  - **Recommendations:**  
All stakeholders to enter HIV programming through NAC and onto identified sub-National coordinators
  - Different constituent partners need to adapt coordination mechanism and coordinate themselves with regular reports to NAC
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193.	<b>TITLE:</b> <b>ANTENATAL CLINIC-BASED HIV PREVALENCE IN ZAMBIA: DECLINING TRENDS BUT SHARP LOCAL CONTRASTS IN YOUNG WOMEN.</b> <b>Authors:</b> Sandøy I.F <sup>2</sup> , Kvåle G <sup>2</sup> , Michelo C <sup>1</sup> <i>et al</i> <b>Year:</b> 1994-2002 <b>Org/Inst:</b> <sup>1</sup> Department of Community Medicine, School of Medicine, University of Zambia, Lusaka, Zambia, <sup>2</sup> Centre for International Health, University of Bergen, 5021 Bergen, Norway <b>Status:</b> Published in Tropical Medicine International Health. 2006 Jun; 11(6):917-28 <b>Study Site(s):</b> National <b>Source:</b> Abstracts Book for the Dissemination Seminar on NUFU project "Strengthening HIV-related interventions in Zambia: co-operation in research and institution capacity building" (2002-2006): University of Zambia and University of Bergen
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**Objectives:** To describe regional variation in human immunodeficiency virus (HIV) prevalence trends in the period 1994-2002 and to assess the effects on prevalence trends of residence, educational level and age, and potential interaction between these variables.

**Methodology:** The data were from the national HIV sentinel surveillance system comprising information collected using interviews and unlinked anonymous testing of blood among pregnant women attending antenatal clinics in 22 sites in 1994, 1998 and 2002.

**Results:** There was a decline in HIV prevalence in the age group 15-24 years in the period 1994-2002 both in rural (by 11%) and urban (by 26%) areas. The decline was strongest among highly educated women. However, this overall decline masked striking differences at community (site) levels with clearly declining epidemics in many sites contrasted by increasing epidemics in some and stability in others. Urban/rural residence, age, educational attainment, marital status and parity were factors closely associated with HIV infection. Having born many children was associated with lower risk of being infected by HIV, even in the age group 15-24.

**Conclusions:** The HIV prevalence decline in young women is likely to reflect a drop in incidence during the period. However, there were sharp geographical contrasts in trends. Such local contrasts probably indicate differences in effectiveness of preventive interventions. Understanding factors and mechanisms explaining the differences will be of critical importance to better guide preventive interventions.

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194.	<b>TITLE:</b> <b>UNDERSTANDING THE DYNAMICS OF HIV/AIDS AND FAMILY PLANNING AT THE COMMUNITY LEVEL IN ZAMBIA</b>
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**Authors:** Underwood C, Kapungwe A and Tembo R, *et al*  
**Year:** 2006  
**Org/Inst:** Health Communication Partnerships  
**Status:** Published  
**Org/Inst:** Health Communication Partnership  
**Study Site(s):** Katete, Siavonga, and Kapiri Mposhi  
**Source:** Health Communication Partnerships

In the midst of an HIV and AIDS epidemic that is characterized predominantly by heterosexual transmission, individuals of reproductive age in Zambia make fertility-related decisions in an environment much more complex than in previous generations.

This report examines the role of HIV and AIDS in fertility decision-making, changing social norms about child-bearing and contraceptive use, and it explores the role of communication in that process. Focus group discussions and semi-structured interviews were used in data collection.

Among many important perceptions about HIV Prevalence in the Community were: Awareness of HIV/AIDS was widespread in all the study sites, and concern about the consequences at both the community and household levels was expressed by focus group participants.

Due to their first-hand experience with HIV and its consequences, people living with HIV/AIDS also mentioned the personal effects of HIV:

Children, respondents noted, are important to the community, the family and the individual. The community, it was said, needs children for continuity, to provide leadership in the future, and to increase the size and strength of the community.

The findings show that opposition to HIV-positive people choosing to initiate or continue childbearing is fairly normative. Most community members expressed the need to advise their male and female relatives who were HIV positive to refrain from having children in the event that they tested positive. The concern most often expressed among community members was that the child would die prematurely. There was a widespread belief among focus group participants that the children of HIV-positive men will inevitably contract the virus. When asked what advice they would give a woman who knew that she was HIV-positive, many respondents expressed a concern for her health.

***Strategic objective 23: Improve capacity of implementing partners for monitoring and evaluation of the situation and the response***

**195. TITLE:** PROJECTING PERFORMANCE MEASURES AND COSTS OF ALTERNATIVE HIV RAPID TEST STRATEGIES

**Authors:** Shields J M, Mwinga A Z, Nelson D. B  
**Year:** 2001  
**Org/Inst:** CDC/GAP - Zambia, Lusaka, Zambia  
**Status:** Published in the Abstract Book for the 2002 XIV International AIDS Conference Abstract no. B10167  
**Study Site(s):** National  
**Source:** Abstract Book for the 2002 XIV International AIDS Conference Abstract no. B10167

**Methodology:** An Excel spreadsheet was prepared to facilitate short listing alternative protocols by providing protocol templates and a means of selecting tests from a user

modifiable list to model a specific protocol. The user specifies conditions for the selected tests, inputs local performance parameters (or selects best, mid, or worst case published sensitivity and specificities), and stipulates estimated prevalence and number of persons to be tested.

**Results:** The spreadsheet performs Bayesian and other required statistical calculations to produce EXPECTED net protocol sensitivity and specificity, false negative and false positive counts, number of HIV tests of each type required for the protocol, total cost of tests used, and a measure of the protocol testing bias. During a discussion of the merits of introducing electronic readers at a planning meeting in Zambia, using the tool demonstrated no significant expected marginal benefit for cost, given prior local performance.

**Conclusions:** This decision support tool has been useful in ad hoc modelling of selected rapid test strategies and quickly comparing their projected performance. It is flexible in that intermediate calculations and formulae are available for review and adaptation to special cases, and most researchers and program specialists can use spreadsheets. We expect the tool will be useful for those planning to implement new or evaluate existing HIV testing strategies.

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<b>196. TITLE:</b>	<b>PREVALENCE AND PREDICTORS OF SQUAMOUS INTRAEPITHELIAL LESIONS OF THE CERVIX IN HIV-INFECTED WOMEN IN LUSAKA, ZAMBIA</b>
<b>Authors:</b>	Parham G. <sup>1</sup> , Sahasrabuddhe V. <sup>2</sup> , Vermund S. <sup>2</sup> , B <i>et al</i>
<b>Year:</b>	2005
<b>Org/Inst:</b>	University Teaching Hospital, Center for Infectious Disease Research in Zambia, University of Vanderbilt
<b>Status:</b>	Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. TUAB0303
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. TUAB0303

**Background:** HIV-infected women are at higher risk for the development of HPV-induced squamous intraepithelial lesions (SIL) of the cervix. HIV-infected women living in resource limited settings like Zambia are now accessing antiretroviral therapy and may live long enough for cervical cancer to manifest and progress. It is important to develop appropriate guidelines for screening in the context of cervical cancer prevention.

**Methodology:** We evaluated the prevalence and predictors of cervical cytological abnormalities among 150 consecutive, eligible, non-pregnant HIV-infected women accessing HIV-care services in Lusaka, Zambia. A pelvic examination was performed and cervical specimens were analysed with liquid-based monolayer cytology (Thin Prep Pap Test®: Cytac Corporation) and testing for HPV using Roche Linear Array® PCR assay.

**Results:** The median age of study participants was 36 years (range 23-49 years) and their mean CD4+ count was 209/ $\mu$ l (S.E.+14.7). The prevalence of SIL was 76% (114/150); 23.3% (35/150) women had low grade SIL, 32.6% (49/150) had high-grade SIL, and 20% (30/150) had lesions suspicious for squamous cell carcinoma (SCC). High-risk HPV types were present in 85.3% (128/150) women. On bivariable analyses, age, CD4+ cell count and presence of any high-risk HPV type were found to be significantly associated with the presence of severely abnormal cytology, i.e., high grade SIL and suspicious for squamous cancer. Multivariable logistic regression modelling suggested the presence of any high-risk HPV type as an independent predictor of severely abnormal cytology (Adjusted OR: 12.4, 95% C.I. 2.62-58.1, p=0.02).

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**Conclusions:** The high prevalence of abnormal squamous cytology in our study is one of the highest reported in any population worldwide. It is essential to develop, implement, and evaluate cost-effective screening tests and appropriate treatment protocols for HIV-infected women in resource limited settings who, on antiretroviral therapy, may live long enough to develop HPV-induced invasive cervical cancer.

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197.	<b>TITLE:</b> FACTORS INFLUENCING REPRODUCTIVE DECISION <b>MAKING OF HIV POSITIVE WOMEN</b> <b>Authors:</b> Bwembya P.A. <sup>1</sup> , Fisher J. <sup>1</sup> , Sinkala M. <sup>2</sup> <b>Year:</b> 2004 <b>Org/Inst:</b> Lusaka Urban Health Management Board <b>Status:</b> Published in the AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0484 <b>Study Site(s):</b> Lusaka <b>Source:</b> AIDS 2006 - XVI International AIDS Conference: Abstract no. CDD0484
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**Background:** Fertility desires of HIV positive women and factors influencing their reproductive decisions are generally poorly understood. Motherhood is considered an important aspect of a woman's life. Women with HIV infection are discouraged from getting pregnant but in sub-Saharan Africa social pressure may influence HIV positive women's decisions to conceive. While a supportive environment in developed countries has enabled women with HIV to make informed reproductive decisions, have access to appropriate health care and reproductive services, this is not a reality for the majority of women in resource poor settings.

**Methodology:** To explore the social and cultural factors and services influencing reproductive decisions of HIV positive women, a qualitative study was conducted in three of 24 public health centres in Lusaka, Zambia. Purposive and snowball sampling led to recruiting 25 HIV positive women between 20 - 49 years old. During in-depth interviews, these women described their experiences with regard to reproductive health services, social and cultural factors relating to their reproductive decisions.

**Results:** This study found that access to support from health centres, partners, family and public depended on women's degree of openness about their HIV positive status within their social and cultural context. A high degree of openness favoured accessing available support and making informed reproductive choices. Women who were most hesitant about revealing their HIV status had least control over their reproductive decisions.

**Conclusions:** Existing reproductive services did not meet the needs of HIV positive women in Zambia. Motherhood was critical for all women. Despite their state of health or available services, women desired to have at least one child. Recommendations from this study have far reaching implications on policy development and public health practice in resource poor settings.

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198.	<b>TITLE:</b> INCIDENCE AND PREDICTORS OF HEPATOTOXICITY AMONG PATIENTS RECEIVING NEVIRAPINE (NVP)-CONTAINING ANTIRETROVIRAL THERAPY (ART) IN ZAMBIA. <b>Authors:</b> Cantrell R, Chi B, Mulenga L <i>et al</i> <b>Year:</b> 2004-2005 <b>Org/Inst:</b> Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, Center for Disease Control and Prevention, University of
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**Status:** Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006  
**Study Site(s):** Lusaka  
**Source:** XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract WEPE0172.

**Background:** Concerns over NVP-induced hepatotoxicity among individuals with high CD4 has prompted recommendations against its use in women with CD4 >250 and men with CD4 >400. However, little data are presently available from African populations, where NVP is common.

**Methods:** We analysed a large cohort of patients receiving NVP-based ART in Lusaka, Zambia. We defined incident hepatotoxicity as elevations in ALT or AST following ART initiation. Analysis was restricted to those without baseline AST/ALT elevations. Severity grading was based on published toxicity thresholds.

**Results:** From May-04 to Nov-05, 12,227 individuals started NVP-containing ART. 7,592 (62%) were women. 472 had elevated ALT/AST at baseline and were excluded. Among 11,755 individuals in this analysis, there were 4,888 patient-years of follow-up. Median CD4 was 120 cells/uL (IQR=59-194). Gender, age, baseline CD4, baseline WHO stage, and weight did not predict severe toxicity (grade 3/4). In multivariable analysis, those with CD4 between 51-200 (adjusted hazard ratio [AHR]= 1.00; 95%CI=0.95-1.06), 201-350 (AHR= 1.00; 95%CI=0.93-1.07), and  $\geq$ 351 (AHR=1.00; 95%CI=0.90-1.11) had similar risk for severe hepatotoxicity compared to individuals with CD4 <50. Women with CD4 >250 cells/uL (n=1,066) had similar risk for severe hepatotoxicity compared to those with CD4  $\leq$ 250 cells/uL (n=5,891; AHR= 0.98; 95%CI=0.91-1.06). Due to limited cases, we could not assess risk of hepatotoxicity in men above and below the CD4=400 threshold.

**Conclusion:** In this large programmatic ART cohort, severe hepatotoxicity was a rare event for individuals on NVP-containing ART. We did not observe a higher risk of transaminase elevation in individuals with higher entry CD4 count.

**199.**      **TITLE:** **IMPACT OF AN INTERVENTION ON ATTITUDES TO AND PRACTICE OF COLLABORATION BETWEEN TRADITIONAL HEALERS AND BIOMEDICAL WORKERS FOR IMPROVED QUALITY OF STI/HIV/AIDS SERVICES**  
**Authors:** Ndubani P<sup>1</sup>, Kaboru B.B.<sup>2</sup>, Zulu R<sup>1</sup> *et al*  
**Org/Inst:** <sup>1</sup>Institute for Economic and Social Research (INESOR)  
**Year:** 2005  
**Status:** Published; AIDS 2006 - XVI International AIDS Conference: Abstract no. MOPE0809  
**Study Site(s):** -  
**Source:** AIDS 2006 - XVI International AIDS Conference: Abstract no. MOPE0809

**Background:** The WHO and several studies have recommended collaboration between traditional healers and bio-medically-trained health workers, as key to scaling up HIV/AIDS control activities. However, few intervention studies have focused on enhancing these provider's attitudes to and practice of collaboration. In this paper, we describe changes in attitudes and practice of collaboration between the two groups of providers, after a participatory intervention in Zambia.

**Methodology:** Self-administered tools to assess participant's attitudes to and practices of collaboration and quality of service were used before and after the intervention (18 biomedical workers and 30 healers). To explore the possibility of a broader impact, interviews were conducted with no-participants in the intervention but working in the intervention district (76 healers and 65 biomedical workers) and control district (93 and 58, respectively) before and after the intervention.

**Results:** Biomedical workers' attitudes changed after the intervention regarding beliefs that traditional medicine is good, that healers are potential good HIV counsellors and that collaboration is feasible. Referrals from biomedical to healers for HIV counselling and care showed significant increase ( $p<0.05$ ). Significant changes were observed regarding healer's willingness to visit biomedical units ( $p<0.001$ ), their belief that biomedical are corrupt ( $p<0.001$ ), look down on healers ( $p=0.005$ ) and that inter-professional collaboration is feasible ( $p<0.001$ ). Confidence in their role in HIV prevention ( $p=0.002$ ) and counselling ( $p<0.001$ ) increased among healers. Compared to the control district, more biomedical (35% vs. 3%,  $p<0.001$ ) and healers (42% vs. 16%,  $p=0.002$ ) from intervention area reported intersectoral collaboration. The average number of patients referred per healer/month at intervention district was 4 vs. 3 at control ( $p=0.171$ ) for PMTCT; 5 vs. 3 for VCT ( $p=0.067$ ); 4 vs. 2 for ARV ( $p=0.067$ ).

**Conclusions:** Dialogue-building interventions can have compelling effects on practitioner's attitudes and practice of collaboration and subsequently improve AIDS care and coverage of PMTCT, VCT and ARV programs.

***Strategic objective 24: Strengthen operational and behavioural research and access to information on best practices and cost effective interventions***

200.	<b>TITLE:</b>	ZAMBIA ANTENATAL CLINICAL SENTINEL SURVEILLANCE REPORT. KALA AND MWANGE REFUGEE CAMPS 2005
	<b>Authors:</b>	United Nations High Commissioner for Refugees
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	United Nations High Commissioner for Refugees
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	Kala and Mwange Refugee Camps
	<b>Source:</b>	United Nations High Commissioner for Refugees

Kala and Mwange refugee camps participated in a cross sectional survey of women attending ANC to determine the HIV and syphilis prevalence among these women in 2005.

**Objectives:** The protocol was similar to that of the Zambia 2004 ANC SS. As a cross sectional survey, the HIV and syphilis prevalence data gathered cannot show causal association with any other variables. Likewise, it should not be used as a measure of HIV or syphilis prevalence among all people in the refugee camps. These data should be used for trend analysis in upcoming years which will allow for an early warning of changes that may be occurring in HIV or syphilis prevalence in the camps. These data may also be compared with similarly collected from other ANC SS sites in order to make statements comparing the relative burden of HIV infection in the ANC populations using the clinics at these different sites.

The overall prevalence for HIV that was found among the 540 women included in the final dataset was 2.4%. In Kala camp, the prevalence of HIV infection was 3.4%, and in Mwange camp the prevalence of HIV was 1.2%. The overall syphilis prevalence among

these women was 1.7%. Because the absolute counts of positives for either HIV or syphilis were quite small, the prevalence estimates have wide confidence intervals and the two sites do not differ significantly.

**Results:** Women who were found to have HIV or syphilis were more likely to report having had at least one abortion or stillbirth in the past. This demonstrates the importance of programs that identify and treat syphilis among pregnant women and their partners. It also shows the importance of programs that include testing for HIV as a routine procedure when people report for treatment of any medical condition.

Another important finding documented in this report is the quality of the data collected as a result of more time and resources used for staff training at the refugee camps. The result of this extra attention was data of very high quality which facilitated data cleaning and analysis.

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201.	<b>TITLE:</b> A TEST OF THE NEW VARIANT FAMINE HYPOTHESIS <b>IN ZAMBIA</b> <b>Authors:</b> Mason N. <sup>1</sup> , Chapoto A. <sup>2</sup> , Jayne T.S. <sup>1</sup> <b>Year:</b> 2004 <b>Org/Inst:</b> - <b>Status:</b> Published; <i>AIDS 2006</i> - XVI International AIDS Conference: Abstract no. TUPE0866 <b>Study Site(s):</b> National <b>Source:</b> <i>AIDS 2006</i> - XVI International AIDS Conference: Abstract no.TUPE0866
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**Background:** There is a common perception that rural poverty and vulnerability in southern Africa have worsened since the early 1990s. De Waal and Whiteside (2003) have hypothesized that severe agrarian poverty coupled with the HIV/AIDS epidemic is making communities in southern Africa more vulnerable and less resilient to exogenous shocks such as drought and creating new variant famine (NVF). To date, there has been little empirical validation of this hypothesis. Zambia is an appropriate test case for the NVF hypothesis because it is among the seven most highly HIV/AIDS-afflicted countries in the world and has been plagued by frequent droughts over the last 15 years.

**Methodology:** The NVF hypothesis is tested using nationally-representative data from approximately 7,000 agricultural households in 52 districts surveyed annually between 1991 and 2004.

Using fixed effects estimation, the study measures the impact of lagged HIV prevalence rates on cultivated area, the value of crop output, and productive assets for 52 districts over time, after controlling for other exogenous shocks and trends. We also examine whether lagged HIV prevalence rates affect the impact of rainfall shocks on district-level welfare trends.

**Results:** Preliminary results suggest a robust negative relationship between lagged HIV prevalence and agricultural output as well as productive asset holdings in Zambia. A one percentage point increase in lagged HIV prevalence rates is associated with a 2.2% decline in the mean value of household crop output. However, there is only weak evidence to suggest that rising HIV prevalence rates have exacerbated the impact of drought on agricultural output.

**Conclusions:** Unless HIV prevalence rates in rural Zambia decline substantially, there will be severe cumulative effects on agricultural communities' livelihoods over time. Agricultural performance and rural livelihoods will increasingly be influenced by health policy decisions and technology innovations capable of moderating the spread of HIV.

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202.	<b>TITLE:</b> <b>MARKED HIV PREVALENCE DECLINES IN HIGHER EDUCATED YOUNG PEOPLE: EVIDENCE FROM POPULATION-BASED SURVEYS (1995-2003) IN ZAMBIA</b> <b>Authors:</b> Michelo C <sup>a,b</sup> , Sandoy I. F. b Fylkesnes K <sup>b</sup> <i>et al</i> <b>Year:</b> 1995-2003 <b>Org/Inst:</b> <sup>1</sup> University of Zambia, Community Medicine, Lusaka, Zambia, <sup>2</sup> University of Bergen, Centre for International Health, Bergen, Norway <b>Status:</b> Published in abstracts for <i>AIDS</i> 2003, 20: 1031-1038 <b>Study Site(s):</b> Kapiri Mposhi and Chelston Township Lusaka Zambia <b>Source:</b> Abstracts Book for the Dissemination Seminar on NUFU project Strengthening HIV-related interventions in Zambia: co-operation in research and institution capacity building" (2002-2006): University of Zambia and University of Bergen
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**Objectives:** Higher educational attainment is associated with a greater risk of HIV infection in Sub-Saharan Africa. We investigated change over time in HIV prevalence by educational attainment in the general population.

**Methodology:** The data stem from serial population-based HIV surveys conducted in selected urban and rural communities in 1995 ( $n=2989$ ) and 2003 ( $n=4442$ ). Analyses were stratified by residence, sex and age-group. Logistic regression was used to estimate age – adjusted odds ratio of HIV between age ( $\leq 4$  school years) and higher education ( $\geq 8$  years) for the rural population and between low ( $\leq 7$  school years) and higher education ( $\leq 11$  school years) for the urban population.

**Results:** There was a universal shift towards reduced risk of HIV infections in groups with higher than lower education in both sexes among urban young people [odds ratio (OR), 0.02; 95% confidence interval (CI), 0.05-0.73] in men and (OR, 0.33; 95% CI, 0.15-0.72) IN women. A similar pattern was observed in rural young men (OR, 0.17; 95% CI, 0.05-0.59) but was less prominent and not statistically significant in rural women. In age 25-49 years, higher educated urban men had reduced risk in 2003 (OR, 0.43; 95%CI, 0.26-0.72) but this was less prominent in women.

**Conclusion:** The findings suggested a shift in the association between educational attainment and HIV infections between 1995 and 2003. The most convincing sign was the risk reduction among more educated younger groups where most infections can be assumed to be recent. The changes in older groups are probably largely influenced by differential mortality rates. The stable risk among groups with lower education might also indicate limitations in past preventive efforts.

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203.	<b>TITLE:</b> <b>STEEP HIV PREVALENCE DECLINES AMONG YOUNG PEOPLE IN SELECTED ZAMBIAN COMMUNITIES: POPULATION-BASED OBSERVATIONS (1995–2003)</b> <b>Authors:</b> Michelo C <sup>a,b</sup> , Sandoy I. F <sup>b</sup> , Fylkesnes K <sup>b</sup> <i>et al</i> <b>Year:</b> 1995-2003 <b>Org/Inst:</b> <sup>a</sup> School of Medicine University of Zambia, Zambia and <sup>b</sup> Center for International Health, University of Bergen, Norway <b>Study Site(s):</b> -
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**Source:** BMC Public Health. 2006;6:279. Published online 2006 November 10. doi: 10.1186/1471-2458-6-279.

**Background:** Understanding the epidemiological HIV context is critical in building effective setting-specific preventive strategies. We examined HIV prevalence patterns in selected communities of men and women aged 15–59 years in Zambia.

**Methodology:** Population-based HIV surveys in 1995 (n = 3158), 1999 (n = 3731) and 2003 (n = 4751) were conducted in selected communities using probability proportional to size stratified random-cluster sampling. Multivariate logistic regression and trend analyses were stratified by residence, sex and age group. Absence, <30% in men and <15% in women in all rounds, was the most important cause of non-response. Saliva was used for HIV testing, and refusal was <10%.

**Results:** Among rural groups aged 15–24 years, prevalence declined by 59.2% (15.7% to 6.4%, P < 0.001) in females and by 44.6% (5.6% to 3.1%, P < 0.001) in males. In age-group 15–49 years, declines were less than 25%. In the urban groups aged 15–24, prevalence declined by 47% (23.4% to 12.4%, P < 0.001) among females and 57.3% (7.5% to 3.2%, P = 0.001) among males but were 32% and 27% in men and women aged 15–49, respectively. Higher educated young people in 2003 had lower odds of infection than in 1995 in both urban [men: AOR 0.29(95%CI 0.14–0.60); women: AOR 0.38(95%CI 0.19–0.79)] and rural groups [men: AOR 0.16(95%CI 0.11–0.25), women: AOR 0.10(95%CI 0.01–7.34)]. Although higher mobility was associated with increased likelihood of infection in men overall, AOR, 1.71(95%CI 1.34–2.19), prevalence declined in mobile groups also (OR 0.52 95%CI 0.31–0.88). In parallel, urban young people with ≥11 school years were more likely to use condoms during the last casual sex (OR 2.96 95%CI 1.93–4.52) and report less number of casual sexual partners (AOR 0.33 95%CI 0.19–0.56) in the last twelve months than lower educated groups.

**Conclusion:** Steep HIV prevalence declines in young people, suggesting continuing declining incidence, were masked by modest overall declines. The concentration of declines in higher educated groups suggests a plausible association with behavioural change.

<b>204. TITLE:</b>	TREATMENT OF INTESTINAL HELMINTHS DOES NOT REDUCE PLASMA CONCENTRATIONS OF HIV-1 RNA IN COINFECTED ZAMBIAN ADULTS
<b>Authors:</b>	Modjarrad K, Zulu I, Redden D. T <i>et al</i>
<b>Year:</b>	2003
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University Teaching Hospital, University of Zambia, University of Alabama at Birmingham
<b>Status:</b>	Published as manuscript in <i>J Infect Dies</i> 2005
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	<i>J Infect Dies</i> 2005; 192:1277-83.

**Background:** Infection with intestinal helminths may stimulate dysfunctional immune responses in human immunodeficiency virus (HIV)-infected persons. Studies have yielded conflicting results regarding the impact of antihelminthic treatment on plasma concentrations of HIV-1 RNA.

**Methods.** We conducted a prospective study of 54 HIV-1- and helminth-coinfected and 57 HIV-1-infected, helminth-uninfected asymptomatic adults living in Lusaka, Zambia, to assess the impact of antihelminthic treatment on plasma concentrations of HIV-1 RNA.

**Results:** Median baseline viral load was 0.33 log(10) copies/mL lower in the helminth-infected group than in the uninfected group. Mean viral load between pretreatment and posttreatment visits increased in the helminth-infected (mean, 4.23 vs. 4.29 log(10) copies/mL; P=.6) and helminth-uninfected (mean, 4.39 vs. 4.52 log(10) copies/mL; P=.2) groups. Helminth-infected participants with high pretreatment viral loads had a mean 0.25-log(10) copies/mL decrease after treatment (P=.3), and helminth-uninfected participants had a mean 0.02-log(10) copies/mL decrease (P=.8).

**Conclusions:** We did not find an overall association between treatment of intestinal helminth infections and reduction in viral load in coinfecting adults. Future studies may need to focus on adults with intense helminth infections that live in rural areas or on adults or children who harbor higher helminth burdens and plasma concentrations of HIV-1 RNA.

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<b>205. TITLE:</b>	<b>PREVALENCE AND PREDICATORS OF INTESTINAL HELMINTH INFECTIONS AMONG HUMAN IMMUNODEFICIENCY VIRUS TYPE 1-INFECTED ADULTS IN AN URBAN AFRICAN SETTING</b>
<b>Authors:</b>	Modjarrad K, Zulu I, Redden D. T <i>et al</i>
<b>Year:</b>	2003
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University Teaching Hospital, University of Zambia, University of Alabama at Birmingham
<b>Status:</b>	Published as manuscript in <i>Am J Trop Med Hyg</i> 2005
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	<i>Am J Trop Med Hyg</i> 2005; 73: 777-82.

Sub-Saharan Africa is disproportionately burdened by intestinal helminth and human immunodeficiency virus (HIV)-1 infection. Recent evidence suggests detrimental immunologic effects from concomitant infection with the two pathogens. Few studies, however, have assessed the prevalence of and predictors for intestinal helminth infection among HIV-1-infected adults in urban African settings where HIV infection rates are highest. We collected and analysed sociodemographic and parasitologic data from 297 HIV-1-infected adults (mean age = 31.1 years, 69% female) living in Lusaka, Zambia to assess the prevalence and associated predictors of helminth infection. We found at least one type of intestinal helminth in 24.9% of HIV-infected adults. Thirty-nine (52.7%) were infected with *Ascaris lumbricoides*, and 29 (39.2%) were infected with hookworm. More than 80% were light-intensity infections. A recent visit to a rural area, food shortage, and prior history of helminth infection were significant predictors of current helminth status. The high helminth prevalence and potential for adverse interactions between helminths and HIV suggests that helminth diagnosis and treatment should be part of routine HIV care.

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<b>206. TITLE:</b>	<b>COST AND ENROLLMENT IMPLICATIONS OF TARGETING DIFFERENT SOURCE POPULATION FOR AN HIV TREATMENT PROGRAM</b>
<b>Authors:</b>	Chi B, Fusco H, Sinkala M <i>et al</i>
<b>Year:</b>	2004
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, University of Alabama at Birmingham
<b>Status:</b>	Published as a manuscript in <i>J Acquir Immune Defic Syndr</i> 2005; 40: 350-55.

**Study Site(s):** Lusaka

**Source:** *J Acquir Immune Defic Syndr* 2005; 40: 350-55.

**Background:** Rapid scale-up of antiretroviral therapy (ART) is a worldwide priority, and ambitious targets for numbers on ART have been set. Antenatal clinics (ANCs) and tuberculosis (TB) clinics have been targeted as entry points into HIV care.

**Methods:** We developed a conditional probability model to evaluate the effects of ANC and TB clinic populations on ART program enrolment.

**Results:** To start 1 individual on ART, 3 TB patients have to be screened at a crude program cost of 36 US dollars per patient initiated on therapy. By contrast, 48 ANC patients have to be screened at a cost of US 214 US dollars per patient on therapy. In an incremental analysis in which ANC HIV testing was borne by a program to prevent mother-to-child transmission, recruitment efficiency increased (8 screened per patient starting ART) and cost decreased (114 US dollars per patient on therapy). Absolute numbers starting ART, however, remained fixed. If all 60,000 ANC patients seen yearly in the Lusaka District were screened, 1247 would start ART. Approaching the district's 35,000 annual TB patients would generate 11,947 patients on ART.

**Conclusion:** In areas with high HIV prevalence, targeting chronically ill populations for HIV treatment may have significant short-term benefits in cost savings and recruitment efficiency.

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<b>207. TITLE:</b>	POTENTIAL COST-EFFECTIVENESS OF MATERNAL AND INFANT ANTIRETROVIRAL INTERVENTIONS TO PREVENT MOTHER-TO-CHILD TRANSMISSION DURING BREAST-FEEDING.
<b>Authors:</b>	Maclean C. C and Stringer J. S.
<b>Year:</b>	2004
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University of Alabama at Birmingham
<b>Status:</b>	Published as a manuscript in <i>J Acquir Immune Defic Syndr</i> 2005
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	<i>J Acquir Immune Defic Syndr</i> 2005; 38(5):570-577.

**Introduction:** One-third of maternal-to-child HIV transmission occurs during breast-feeding (BF). Several trials are currently evaluating the efficacy of postpartum antiretrovirals to reduce BF transmission.

**Methods:** This study used Markov modelling to define the circumstances under which the following interventions would be cost-effective: BF for 6 months with daily infant nevirapine (NVP) prophylaxis; maternal combination antiretroviral therapy (ART) during pregnancy and for 6 months of BF; and maternal combination ART only for women who meet CD4 criteria. Each was compared to: BF for 12 months; BF for 6 months; and formula feeding for 12 months. Strategies were evaluated for a hypothetical cohort of 40,000 pregnant women in sub-Saharan Africa, in the context of available voluntary counselling and testing in antenatal care. Model estimates were derived from the literature and local sources. Sensitivity analyses were performed on uncertain estimates. The perspective used was that of a government health district.

**Results:** Using base case estimates, BF for 6 months was the economically preferred strategy: it cost 806,995 dollars and generated 446,208 quality-adjusted life-years (QALYs). Providing daily infant NVP cost an additional 93,638 dollars and generated 1183 additional QALYs, but its incremental cost-effectiveness ratio (ICER) of 79 dollars/QALY

exceeded the standard willingness to pay (64 dollars/QALY) for most resource-poor settings. Maternal combination ART was potentially very effective but too costly for most resource-poor settings (ICER: 87 dollars/QALY). In order for daily infant NVP during BF to be preferred, it must have  $>/=44\%$  relative efficacy or cost  $</=5.00$  dollars/mo. If NVP were donated, it would only have to be minimally effective to be the economically preferred strategy. If ART cost  $</=34.50$  dollars/mo, ART to all mothers would become the preferred strategy under our assumption of 82% efficacy.

**Conclusions:** Providing antiretrovirals during BF represents a promising alternative, should their effectiveness, and feasibility be proven.

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<b>208. TITLE:</b>	<b>SIMPLE ASSESSMENTS OF ADHERENCE TO ANTIRETROVIRAL THERAPY PREDICT VIROLOGIC FAILURE IN HIV-INFECTED PATIENTS IN LUSAKA, ZAMBIA.</b>
<b>Authors:</b>	Goldman J. D, Mumba P, Cantrell R. A <i>et al</i>
<b>Year:</b>	2006
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University of Alabama at Birmingham, Vanderbilt University
<b>Status:</b>	Published in the abstract book of the 3 <sup>rd</sup> IAS Conference on HIV Pathogenesis and Treatment, Sydney, Australia, July 22 -25, 2007; Abstract WEAB105
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	3 <sup>rd</sup> IAS Conference on HIV Pathogenesis and Treatment, Sydney, Australia, July 22 -25, 2007; Abstract WEAB105.

**Objectives:** In resource-limited settings, evaluation of adherence to antiretroviral therapy (ART) is critical given the poor availability of routine viral load (VL) testing and limited options for second-line therapy. We evaluated the association of adherence measurements with virological failure in Lusaka, Zambia.

**Methods:** In the ART program, patients receive monthly dispensations of drugs and are followed in a computerized database. Patients in this analysis were on ART  $> 100$  days before treatment failure was suspected. Virological suppression was defined as  $< 400$  copies/mL. Adherence measures included days late for monthly pharmacy visits averaged over the course of treatment and patient self-report of missed doses three days prior to pharmacy visits.

**Results:** 124 of 415 patients tested (30%) had detectable VL. The median time from ART initiation to VL measurement was 602 (IQR = 439–750) days. Median number of days late per month was 0.9 (IQR = 0.2–2.2) for suppressed patients vs. 1.6 (IQR = 0.5–3.0) for non-suppressed patients ( $p<0.01$ ). Compared to those who were never late for pharmacy pick-ups, the risk of detectable VL was higher among those who were below the median of 1.0 day late per month (RR=1.9; 95%CI = 0.99–3.5); those between the median and the 90%tile of 4.2 days late per month (RR=2.2; 95%CI = 1.2–4.0); and those above the 90%tile (RR=3.1; 95%CI = 1.6–5.9). These findings held after adjusting for age, baseline haemoglobin and baseline CD4. Only 76 patients (22%) reported missing one or more doses of ART and these patients were at higher risk for virological failure (RR = 1.5; 95%CI = 1.1–2.1).

**Conclusions:** The degree of lateness for pharmacy refills correlates in a dose response relationship with virological failure. While few people reported missing ART doses, those with positive responses were more likely to have detectable viral load.

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<b>209. TITLE:</b>	<b>CHILDREN ENROLLED IN A PUBLIC HIV CARE AND TREATMENT PROGRAM IN LUSAKA, ZAMBIA: RAPID SCALE-UP AND FIRST-YEAR CLINICAL OUTCOMES.</b>
<b>Authors:</b>	Mbewe M, Bolton C, Levy J, <i>et al</i>
<b>Year:</b>	2004
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, Center for Disease Control and Prevention, Elizabeth Glaser Paediatric AIDS Foundation, University of Alabama at Birmingham.
<b>Status:</b>	Published in the abstract book of the XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract MOAB0201.
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	XVI International AIDS Conference, Toronto, Canada, August 13-18, 2006; Abstract MOAB0201.

**Background:** Access to and uptake of paediatric HIV care and treatment in most resource-limited settings remain inadequate, with few programs meeting the WHO target that 10% of patients on antiretroviral therapy (ART) be children.

**Methods:** Paediatric ART services are provided in primary government clinics. ART eligibility is based on WHO staging and age-based CD4 criteria. Virological diagnosis is limited; most children <18 months start therapy on clinical criteria.

**Results:** Between May-04 and Oct-05, 1815 children were enrolled. Of these, 1319 (629 girls, 690 boys) initiated ART. Median age was 6.5 years; 74% were <5% weight-for-age. Mean CD4+ at ART initiation was 650 ( $\pm 520$ ) for children <1 year; 484 ( $\pm 390$ ) for children age 1-5 years; and 254 ( $\pm 234$ ) for children  $\geq 6$  years. Initial regimens included: 545(41%) ZDV+3TC+NVP; 610(46%) D4T+3TC+NVP; 48(3.6%) ZDV+3TC+EFV; 68(5.2%) D4T+3TC+EFV; and 48(3.6%) other regimens. Over 664 child-years on ART, 60 children died (9.0/100 child-years). In Cox proportional hazard modelling, WHO stage III or IV (HR 3.0; CI 1.7-5.7) and low CD4 (HR 2.4; CI 1.1-5.4) were predictors of mortality on ART. Weight-for-age <5%, adherence, gender, and TB at enrolment were not associated with death. The proportion of total ART program enrolment comprising children increased modestly from 5.8% in the first 6 months to 7.3% in the last 6 months ( $p<0.001$ ).

**Conclusions:** In this population without full access to infant HIV diagnostics, more than two-thirds of HIV infected children presenting for care were eligible for ART. Providing quality HIV care and treatment to children on a large scale in a resource-limited setting is feasible but requires a strong commitment to paediatric care.

<b>210. TITLE:</b>	<b>A RANDOMIZED TRIAL OF THE INTRAUTERINE CONTRACEPTIVE DEVICE VS HORMONAL CONTRACEPTION IN WOMEN WHO ARE INFECTED WITH THE HUMAN IMMUNODEFICIENCY VIRUS</b>
<b>Authors:</b>	Stringer E. M, Kaseba C, Levy J, <i>et al</i>
<b>Year:</b>	2007
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia.
<b>Status:</b>	Published by Am J Obstet Gynecol. 2007 Aug; 197(2):144.e1-8
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	Am J Obstet Gynecol. 2007 Aug; 197(2):144.e1-8

**Objective:** The purpose of this study was to determine whether the intrauterine contraceptive device (IUD) is effective and safe among women who are infected with the human immunodeficiency virus (HIV).

**Study Design:** We randomly assigned 599 postpartum, HIV-infected women in Zambia to receive either a copper IUD or hormonal contraception and followed them for at least 2 years. **RESULTS:** Women who were assigned randomly to hormonal contraception were more likely to become pregnant than those who were assigned randomly to receive an IUD (rate, 4.6/100 vs. 2.0/100 woman-years; hazards ratio, 2.4; 95% CI, 1.3-4.7). One woman who was assigned to the IUD experienced pelvic inflammatory disease (crude rate, 0.16/100 woman-years; 95% CI, 0.004-868); there was no pelvic inflammatory disease among those women who were assigned to hormonal contraception. Clinical disease progression (death or CD4+ lymphocyte count dropping below 200 cells/microL) was more common in women who were allocated to hormonal contraception (13.2/100 woman-years) than in women who were allocated to the IUD (8.6/100 woman-years; hazard ratio, 1.5; 95% CI, 1.04-2.1).

**Conclusion:** The IUD is effective and safe in HIV-infected women. The unexpected observation that hormonal contraception was associated with more rapid HIV disease progression requires urgent further study.

<b>211. TITLE:</b>	<b>EARLY CLINICAL AND IMMUNE RESPONSE TO NNRTI-BASED ANTIRETROVIRAL THERAPY AMONG WOMEN EXPOSED TO SINGLE-DOSE NEVIRAPINE FOR PREVENTION OF MOTHER-TO-CHILD HIV TRANSMISSION.</b>
<b>Authors:</b>	Chi B, Sinkala M, Stringer EM, <i>et al</i>
<b>Year:</b>	2007
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, Zambian Ministry of Health, Center for Disease Control and Prevention, Elizabeth Glaser Paediatric AIDS Foundation, University of Alabama at Birmingham
<b>Status:</b>	Published as manuscript in <i>AIDS</i> 2007
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	<i>AIDS</i> 2007; 21:957-64.

**Objective:** To determine whether prior exposure to single-dose nevirapine (NVP) for prevention of mother-to-child HIV transmission (PMTCT) is associated with attenuated CD4 cell response, death, or clinical treatment failure in women starting antiretroviral therapy (ART) containing non-nucleoside reverse transcriptase inhibitors (NNRTI).

**Methods:** Open cohort evaluation of outcomes for women in program sites across Zambia. HIV treatment was provided according to Zambian/World Health Organization guidelines.

**Results:** Peripartum NVP exposure status was known for 6740 women initiating NNRTI-containing ART, of whom 751 (11%) reported prior use of NVP for PMTCT. There was no significant difference in mean CD4 cell change between those exposed or unexposed to NVP at 6 (+202 versus +182 cells/microl; P = 0.20) or 12 (+201 versus +211 cells/microl; P = 0.60) months. Multivariable analyses showed no significant differences in mortality [adjusted hazard ratio (HR), 1.2; 95% confidence interval (CI), 0.8-1.8] or clinical treatment failure (adjusted HR, 1.1; 95% CI, 0.8-1.5). Comparison of recent NVP exposure with remote exposure suggested a less favourable CD4 cell response at 6 (+150 versus +219 cells/microl; P = 0.06) and 12 (+149 versus +215 cells/microl; P = 0.39) months.

Women with recent NVP exposure also had a trend towards elevated risk for clinical treatment failure (adjusted HR, 1.6; 95% CI, 0.9-2.7).

**Conclusion:** Exposure to maternal single-dose NVP was not associated with substantially different short-term treatment outcomes. However, evidence was suggestive that exposure within 6 months of ART initiation may be a risk factor for poor treatment outcomes, highlighting the importance of ART screening and initiation early in pregnancy.

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<b>212. TITLE:</b>	<b>INFLUENCE OF BMI ON PREGNANCY OUTCOMES OF HIV-INFECTED AND -UNINFECTED ZAMBIAN WOMEN.</b>
<b>Authors:</b>	Banda Y, Chapman V, Goldenberg R. L <i>et al</i>
<b>Year:</b>	2007
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia, University of Zambia, University of Alabama at Birmingham
<b>Status:</b>	Published as manuscript in <i>Trop Med Int Health</i> 2007
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	<i>Trop Med Int Health</i> 2007; 12: 856-61.

**Objectives:** To determine the influence of body mass index (BMI) on pregnancy outcomes of HIV-infected and HIV-uninfected Zambian women and to assess the possible role of BMI on mother-to-child transmission rate of HIV.

**Methods:** We analysed data from a clinical trial on nevirapine administration for the prevention of mother-to-child transmission of HIV in Lusaka, Zambia. Demographic characteristics, medical information and pregnancy outcomes were used in this secondary analysis.

**Results:** A total of 1211 women were included in this analysis and 36% were HIV-infected. Among HIV-infected women, maternal parity and prior stillbirths increased with increasing BMI in univariate analysis. Mean birth weight rose as well at 28.3 g [95% confidence interval (CI)=14.0-42.6] of infant weight per BMI unit. Transmission of HIV from mother to child appeared inversely related to BMI when compared according to BMI quartile ( $P$  for trend=0.07). In the HIV-uninfected group, infant birth weight increased with increasing BMI, at 32.7 g (95% CI=23.5-41.9) of infant weight per BMI unit.

**Conclusion:** Birth weight increased alongside BMI in both HIV-infected and HIV-uninfected women. There is a suggestion that women with lower BMI have a greater risk of perinatal HIV transmission, even after adjustments for HIV viral load and CD4 count.

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<b>213. TITLE:</b>	<b>WEALTH AND EXTRAMARITAL SEX AMONG MEN IN ZAMBIA</b>
<b>Authors:</b>	Sitawa R. K. and Yanyi K. D
<b>Year:</b>	2002
<b>Org/Inst:</b>	
<b>Status:</b>	Published in the International Family Planning Perspectives, 2005, 31(2):83-89
<b>Study Site(s):</b>	Zambia
<b>Source:</b>	International Family Planning Perspectives Volume 31, Number 2, June 2005

**Context:** In Zambia, most people know about sexually transmitted infections (STIs) and HIV/AIDS, but this knowledge has not translated into safer sexual practices. An estimated 16% of adults are HIV-positive, with the majority having acquired the infection through

heterosexual contact. It is important to know whether characteristics such as wealth are correlated with extramarital sex among men, because men who have sex outside of marriage are key agents of heterosexual transmission of STIs and HIV.

**Methods:** Data for analysis came from 1,239 married men who participated in the 2001–2002 Zambia Demographic and Health Survey. Multivariate analyses were performed to identify factors associated with men's extramarital sexual behaviour, with a focus on wealth.

**Results:** Overall, 19% of married men had had extramarital sex in the year prior to the survey; their mean number of partners was 1.3. Of the three proxies for wealth included in the multivariate analyses—education, occupation and household wealth index—none were associated with extramarital sex. Living in Southern and Western Provinces of Zambia was associated with significantly increased odds of extramarital sex (2.3 and 3.5, respectively); older age (0.4), older age at first sex (0.6–0.7) and living in Northern Province (0.4) were associated with significantly decreased odds of sex outside of marriage.

**Conclusions:** Cultural norms specific to regions play an important part in sexual behaviour. Socially defined sexual behaviour patterns can shed light on extramarital sex and the spread of STIs, including HIV.

<b>214. TITLE:</b>	<b>HIV TYPE 1 INFECTION IS A RISK FACTOR FOR MORTALITY IN HOSPITALIZED ZAMBIAN CHILDREN WITH MEASLES</b>
<b>Authors:</b>	Moss WJ, Fisher C, Scott S, <i>et al</i>
<b>Year:</b>	1998–2003
<b>Org/Inst:</b>	Department of Molecular Microbiology and Immunology, Johns Hopkins Bloomberg School of Public Health, Johns Hopkins University, Baltimore
<b>Status:</b>	Published in the T1: Clin Infect Dis. 2008 Feb 15;46(4):523-7.
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	1: Clin Infect Dis. 2008 Feb 15;46(4):523-7.

**Background:** Measles remains a significant cause of vaccine-preventable mortality in sub-Saharan Africa, yet few studies have investigated risk factors for measles mortality in regions of high human immunodeficiency virus type 1 (HIV-1) prevalence.

**Methods:** Between January 1998 and July 2003, children with clinically diagnosed measles who were hospitalized at the University Teaching Hospital in Lusaka, Zambia, were enrolled in an observational study. Demographic and clinical information was recorded at enrolment and at discharge or death. Measles was confirmed by detection of antimeasles virus immunoglobulin M antibodies, and HIV-1 infection was confirmed by detection of HIV-1 RNA.

**Results:** Of 1474 enrolled children, 1227 (83%) had confirmed measles and known HIV-1 infection status. Almost one-third of the HIV-1-infected children with measles were <9 months of age, the age of routine measles vaccination, compared with one-fourth of the uninfected children ( $P = .07$ ). Death occurred during hospitalization in 23 (12.2%) of the HIV-1-infected children and 45 (4.3%) of the HIV-1-uninfected children ( $p < .001$ ) with measles. After adjusting for age, sex, and measles vaccination status, HIV-1 infection (odds ratio, 2.5; 95% confidence interval, 1.4–4.6), < or =8 years of maternal education (odds ratio, 2.4; 95% confidence interval, 1.2–4.8), and the presence of a desquamating rash (odds ratio, 2.2, 95% confidence interval, 1.3–3.6) were significant predictors of mortality due to measles.

**Conclusions:** In a region of high HIV-1 prevalence, coinfection with HIV-1 more than doubled the odds of death in hospitalized children with measles. Increased mortality among HIV-1-infected children is further evidence that greater efforts are necessary to reduce transmission of the measles virus in regions of high HIV-1 prevalence.

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<b>215. TITLE:</b>	<b>THE INFLUENCE OF HIV-1 EXPOSURE AND INFECTION ON LEVELS OF PASSIVELY ACQUIRED ANTIBODIES TO MEASLES VIRUS IN ZAMBIAN INFANTS</b>
<b>Authors:</b>	Scott S, Moss WJ, Cousens S <i>et al</i>
<b>Year:</b>	1994-2002
<b>Org/Inst:</b>	London School of Hygiene and Tropical Medicine, London, United Kingdom.
<b>Status:</b>	Published in the PMID: 18194095 [PubMed - indexed for MEDLINE] 1: Clin Infect Dis. 2007 Dec 1;45(11):1417-24. Epub 2007 Oct 22.
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	PMID: 18194095 [PubMed - indexed for MEDLINE] 1: Clin Infect Dis. 2007 Dec 1;45(11):1417-24. Epub 2007 Oct 22.

**Background:** The age at which passively acquired antibodies are lost is critical to determining the optimal age for measles vaccination. Little is known about the influence of human immunodeficiency virus type 1 (HIV-1) infection on levels of prevaccination antibodies to measles virus.

**Methods:** Antibodies to measles virus were measured by plaque reduction neutralization assay in HIV-1-infected, HIVseropositive but uninfected, and HIV-seronegative Zambian infants aged 6 weeks to 9 months. Regression models were used to estimate age-specific antibody concentrations.

**Results:** Neutralizing antibodies to measles virus were measured in 652 plasma samples collected from 448 infants, of whom 61 (13.6%) were HIV-1 infected, 239 (53.4%) were HIV seropositive but uninfected, and 148 (33%) were HIV seronegative. The best fitting model suggests that HIV-1-infected infants have lower levels of passively acquired antibodies to measles virus at birth than do HIVseronegative infants, but their antibody levels decrease more slowly. By 6 months of age, 91% (95% confidence interval, 83%-99%) of HIV-1-infected infants, 83% (95% confidence interval, 77%-89%) of HIV-seropositive but uninfected infants, and 58% (95% confidence interval, 51%-64%) of HIV-seronegative infants were estimated to have antibody levels that were unlikely to affect immune responses to measles vaccine (cutoff value for immune response, <50 mIU/mL). By 9 months of age, 99% of all infants had antibody levels <50 mIU/mL.

**Conclusions:** Infants born to HIV-1- infected women are less likely to have passively acquired antibodies that would neutralize measles vaccine virus and, thus, have an increased risk of measles prior to the age of routine vaccination. Protection could be achieved by administration of the first dose of measles vaccine prior to 9 months of age.

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<b>216.</b>	<b>TITLE:</b>	<b>REDUCING UNCERTAINTIES IN GLOBAL HIV PREVALENCE ESTIMATES: THE CASE OF ZAMBIA</b>
	<b>Authors:</b>	Kumbutso D <sup>1</sup> , Fylkesnes K <sup>2</sup>
	<b>Year:</b>	1994-2002
	<b>Org/Inst:</b>	Central Statistical Office, University of Bergen, Norway
	<b>Status:</b>	Published in <i>BMC Public Health</i> 2006, 6:83

**Study Site(s):** National (Urban and rural Zambia)

**Source:** Abstracts Book for the Dissemination Seminar on NUFU project. Strengthening HIV-related interventions in Zambia: co-operation in research and institution capacity building" (2002-2006): University of Zambia and University of Bergen

**Background:** The premise for using antenatal care (ANC) clinic data for estimating HIV prevalence in the general population is the finding from community studies in sub-Saharan Africa that total HIV prevalence in pregnant women attending ANC clinics closely approximates levels in the total general population of both women and men aged 15-49 years. In this study, the validity of the national level HIV prevalence estimates for the total general population 15-49 years made from ANC clinic and population survey data was assessed.

**Methodology:** In 2001-2002, a national population HIV prevalence survey for women 15-49 years and men 15-59 years was conducted in Zambia. In the same period, a national HIV sentinel surveillance survey among pregnant women attending ANC clinics was carried out.

**Results:** The ANC HIV prevalence estimates for age-group 15-49 years (rural: 11.5% CI, 11.2-11.8; urban: 25.4%, 95% CI, 24.8-26.0; adjusted national: 16.9%; 95% CI, 16.6-17.2) were similar to the population survey estimates (rural: 10.8%; 95% CI, 9.6-12.1; urban: 23.2%; 95% CI, 20.7-25.6; national: 15.6%; 95% CI, 14.4-16.9). The HIV prevalence urban to rural ratio was 2.2 in ANC and 2.1 in population survey estimates.

**Conclusions:** The HIV prevalence estimates for the total general population 15-49 years derived from testing both women and men in the population survey was similar to the estimates derived from testing women attending ANC clinics. It shows that national HIV prevalence estimates for adults aged 15-49 years can also be obtained from ANC HIV sentinel surveillance surveys with good coverage when ANC attendance and fertility are high.

217.	<b>TITLE:</b>	HIV-1 SEROPREVALENCE AMONG PAEDIATRIC ADMISSIONS AT THE UNIVERSITY TEACHING HOSPITAL (UTH) – LUSAKA
	<b>Authors:</b>	Sitali M
	<b>Year:</b>	
	<b>Org/Inst:</b>	The University of Zambia, School of Medicine
	<b>Status:</b>	Completed
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	The University of Zambia, School of Medicine

The seroprevalence of human immunodeficiency virus type 1(HIV-1) among paediatric admissions were studied at the University Teaching Hospital (UTH) Lusaka, Zambia during the period from 22<sup>nd</sup> November to 15<sup>th</sup> December, 1995. This was at a time when the number of admissions to the department of Paediatrics and Child Health were highest. The admission rate on average at this time of the year is 2,000 children per month. This busy period usually starts from the month of October to February each year. The study was a cross sectional survey, evaluating disease presentation among HIV-1 positive and HIV-1 negative children admitted to the department. The children were enrolled to the study using a systematic sampling method around the clock at the outpatient department. A standardized questionnaire was administered to every fifth child admitted. A consent was sought from the accompanying adult to recruit the child and test the child for HIV. Blood for laboratory tests including HIV test was collected.

During the period of the study 2011 children were admitted to hospital out of which three hundred and three (303) joined the study. The overall HIV-1 seroprevalence for the study group was 30.4 percent while that for the children aged 18 months and more was 27.8 percent. There was no sex difference in the HIV-1 seroprevalence. Educational levels of the mothers was used as a proxy to determine socio-economic status of the children. The mothers who had secondary school education and higher were categorized as belonging to a group of high socio-economic class while those who had no formal education or primary school education belonged to the low socio-economic class. There was a high HIV-1 seroprevalence in children whose mothers had secondary school education or higher as compared to children born to mothers with primary school education or none. This means HIV seropositivity was more common in children from high socio-economic class than from those of low socio-economic class. The illnesses that were seen in the study period were Respiratory tract infection, Protein energy malnutrition, Malaria, Gastro-enteritis, Measles and Anaemia. RTI and Anaemia were seen more in the children who were HIV-1 seropositive than in the HIV-1 seronegative group.

The mortality rate in the HIV-1 seropositive children was 15.6 percent as compared to 9.3 percent in the HIV-1 seronegative children. The illnesses that were associated with death in both HIV seropositive and HIV seronegative children were RTI, PEM, G/E, Malaria and Measles. The main cause of death in children who were HIV-1 seropositive was RTI while PEM cause more death for those who were HIV-1 seronegative Postmortems were not carried out to confirm the causes of death in these children.

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<b>218.</b>	<b>TITLE:</b>	<b>LUUMBO ADP HIV, AIDS BASELINE SURVEY -GWEMBE DISTRICT</b>
	<b>Authors:</b>	Ndonji K.
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	Luumbo Area Development Programme (World Vision Zambia)
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	Gwembe
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Problem statement:** The figures in 2001-2002 Zambia Demographic and Health Survey showed Southern province prevalence figures to be 20 percent, the third highest in Zambia from Copperbelt and Lusaka (ZDHS, 2002). This showed that HIV/AIDS was more than twice as high in urban areas as in rural areas. The ADP is found in an area where the HIV/AIDS Prevalence was high. There was no information on knowledge, attitude and practices on HIV/AIDS. Therefore there was a need to carry out the survey in the programme area in Gwembe district.

**Objective:** To assess the levels of knowledge, attitudes and practices in HIV/AIDS in Luumbo ADP area in Gwembe district.

**Methodology:** It was an intervention study to find out the knowledge, attitudes and practices on HIV/AIDS. The data was collected through the use of structured and unstructured questionnaires in Gwembe district of Southern Province. The target group was a cross section of the population of Luumbo ADP. The survey used cluster and random sampling to provide unbiased and representative estimation of the information obtained. The sample size was 368 head of households.

**Results:** generally this has made the HIV/AIDS messages to be known by the people through posters (99%) among other important outcomes

**Conclusions:** The ADP should address the issue of attitudes of people towards those who are HIV/AIDS positive. Prevention strategies should be enhanced .Care of orphans through Home Based Care groups be scaled up in the community as well creation of many VCT centres.

Source of Funding: Luumbo ADP (World Vision Zambia)

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219.	<b>TITLE:</b>	<b>2006 BASELINE SEXUAL BEHAVIOUR SURVEY AMONG UNIVERSITY OF ZAMBIA STUDENTS</b>
	<b>Authors:</b>	Malungo, J. R. S.
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	The University of Zambia
	<b>Status:</b>	Published
	<b>Study Site(s):</b>	University of Zambia
	<b>Source:</b>	The University of Zambia

**Main Objectives:** Determine the HIV and Aids knowledge, attitude and practices of the students in the various schools and years of study at UNZA.

**Description:** The baseline survey was a cross-sectoral study that collected data from various schools and years of study using quantitative approaches both with structured and semi-structured questionnaires. The total number of all the students enrolled by year of study was used as the sampling frame.

**Key findings:** The study found that hearing about HIV and Aids was universal. Some students (76.1%) indicated that they knew enough about the pandemic, with some saying they were sick and tired of hearing about the pandemic. The study also indicated that more than half of the respondents (51.1%) had a boy or girl friend.

It was also revealed that some respondents had more than five sexual partners the previous 12 months. Equally disturbing was the finding that the respondents also conduct anal sex (3.0%) and oral sex (17.9%). In all the encounters use of condom is not a norm.

**Recommendations:** There is a strong need for effective collaboration among the number of organisations dealing with HIV and Aids at UNZA. More creative and innovative ways of spreading HIV information should be put in place and intensified in order to reduce myths and misconceptions surrounding HIV/Aid. Access to condoms within campus should be intensified and promotion of VCT in order to entice utilisation of free anti-retroviral drugs.

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220.	<b>TITLE:</b>	<b>HIV AND SYPHILIS TESTING IN THE ZAMBIA DEMOGRAPHIC HEALTH SURVEY (ZDHS PLUS) 2001-2002</b>
	<b>Authors:</b>	Kaetano L, Mulenga C and Betha E <i>et al</i>
	<b>Year:</b>	2001-2002
	<b>Org/Inst:</b>	Tropical Diseases Research Centre, Ndola, Zambia
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	National
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

Ever since the first AIDS case was noted in Zambia in 1984, much effort has been made to monitor the HIV/AIDS situation in Zambia. Since the early 1990s, Zambia has depended on the Epidemiological Sentinel Surveillance (ESS) system among pregnant women to

monitor trends in the HIV epidemic. The 2001-2002 ZDHS was the first nationally representative survey in Zambia to include voluntary syphilis and HIV testing. HIV testing was carried out anonymously and the test results could not be linked to the respondent's individual information, except for age, sex, residence (urban-rural), and province. ZDHS involved the collection of blood specimens from all eligible women and men from the main survey who voluntarily consented to syphilis and HIV testing. Dried blood spots (DBS) for HIV testing were made from the blood collected for syphilis. Syphilis testing was done in the field, all RPR reactive samples were collected in cryo-vials and transported to TDRC for confirmatory testing using Treponema Palidum Haemagglutination Assay (TPHA). HIV testing was done using Wellcozyme HIV 1& 2 GACELISA on DBS. All positives and 10% negatives were retested using BIONOR HIV 1&2 and any discordant cases were retested using Western Blot.

Overall, 6% of women and 8% of men aged 15 – 49 tested positive for syphilis in Zambia. Syphilis prevalence rates were slightly higher among urban residents of Copperbelt and Lusaka than among those living in rural areas and other provinces. HIV testing gave an overall prevalence of 16% for Zambia. Women were more likely to be HIV-positive than men (18% and 13%, respectively). HIV prevalence is more than twice as high in urban areas as in rural areas (23% and 11%, respectively).

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<b>221. TITLE:</b>	<b>HELMINTHIC INFECTIONS HAVE A MAJOR IMPACT ON THE PATHOGENESIS AND VACCINATION AGAINST HIV INFECTION: SHOULD WE DE-WORM THE POPULATIONS?</b>
<b>Authors:</b>	Bentwich Z.
<b>Year:</b>	2005
<b>Org/Inst:</b>	-
<b>Status:</b>	Published; AIDS 2006 - XVI International AIDS Conference: Abstract no.TUPE0016
<b>Study Site(s):</b>	Ethiopia and Zambia
<b>Source:</b>	AIDS 2006 - XVI International AIDS Conference: Abstract no. TUPE0016"

**Methodology:** Sequential T cell subsets and thorough immune activation profile, as well as clinical follow up, were determined in - HIV-infected ET and non Ethiopian Israelis(IM), HIV non infected ET and non Ethiopian Israelis (IS) HIV plasma viral load was determined in HIV + Ethiopians living in Ethiopia, and Zambians in Zambia, before and after being treated for helminth infections.

**Results:** a) Helminthic infections are associated with chronic immune activation, energy and a dominant TH2 immune profile. b) Most of these changes return to normal 6-12 months after de-worming. c) Increased susceptibility to HIV infection of PBMC from ET , is related to chronic immune activation to increased CCR5 expression and to low chemokine secretion. d) Eradication of helminthic infection in dually infected Ethiopians living in Ethiopia decreases significantly plasma HIV viral load, but was not observed in Zambia.

**Conclusions:** 1) Helminthic infection make the host more susceptible to HIV, less able to cope with it, and defective in generating protective immunity. 2) These elements account for the rapid spread of HIV and tuberculosis in helminth infested regions and should be considered in any vaccine design and trial. 3) These findings together with additional recent studies in humans and primates, support the notion that eradication of helminthic infections

should be urgently considered and at least tried in large scale studies and not least in the context of protective vaccine trials.

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<b>222. TITLE:</b>	<b>GENITAL HERPES AND HIV CO-INFECTION IN LUSAKA ZAMBIA</b>
<b>Authors:</b>	Sadoki E. and Reid S.
<b>Year:</b>	2004
<b>Org/Inst:</b>	Centre for Infectious Disease Research in Zambia (CIDRZ)
<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
<b>Study Site(s):</b>	George Compound and Matero Township
<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

**Study, Setting and Population:** Data for this study was collected from an ongoing clinical Trial: HPTN 039; This is a multi-site, randomised, double-blind, placebo controlled two arm trial; The purpose is to look at the effect of suppressive doses of Acyclovir in preventing HIV acquisition; The population is high risk HIV negative, HSV-2 positive women in George and Matero compounds; Follow-up: monthly with quarterly HIV tests for 18 months; Endpoint: HIV seroconversion; Data was collected for a four month period (March 11 to July 15, 2004)

Outcome: HIV prevalence; HSV-2 prevalence; Clinical presentation of HSV-2 genital herpes.

**Objectives:** To describe HSV-2, HIV prevalence and clinical presentations of HSV-2 in George and Matero compounds in Lusaka.

Design: Prevalence survey.

**Results:** Among HIV negative women 56% were seropositive for genital herpes. Among HIV positive women 73.0 % were seropositive for genital herpes. The following were commonly observed presentations of HIV-2 in our population: Vulvar vesicles, ulcers Gluteal vesicles, pustules and ulcers; Cervicitis with vesicles, pustules and ulcers.

**Conclusion:** HIV sero-prevalence of 52% in women in the Lusaka compounds of George and Matero. HSV-2 sero-prevalence of 56 to 73% in the Lusaka compounds of George and Matero. HSV-2 seroprevalence is 17% higher in the HIV infected compared with non infected women. Genital herpes in Zambian women presents with a wide variety of symptoms

It is well established that HSV-2 seropositivity enhances HIV acquisition; therefore we believe HSV-2 epidemic is fuelling the high HIV prevalence in George and Matero compounds. Funding sources: This is an NIH funded trial but no specific funding was required for this project

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<b>223. TITLE:</b>	<b>DOSE DEPENDANT EFFICACY OF SP-IPT FOR MALARIA IN PREGNANCY AMONG HIV INFECTED ZAMBIAN WOMEN.</b>
<b>Authors:</b>	Chalwe V, Gill CJ and MacLeod <i>et al</i>
<b>Year:</b>	2006
<b>Org/Inst:</b>	Tropical Disease Research Center (TDRC)
<b>Status:</b>	Published in and Abstract Book, 4 <sup>th</sup> National Health Research Conference
<b>Study Site(s):</b>	Ndola

**Source:** Abstract Book, 4th National Health Research Conference, January 18-19, 2007, Zambia.

**Methodology:** We conducted a sub analysis of data from a recently completed placebo controlled, double-blinded RCT comparing standard 2-dose SP/IPT vs. monthly SP-IPT among a population of HIV infected women from Ndola, Zambia, an area with hypo-holoendemic malaria transmission. However, given different entry points during pregnancy, patient follow up, and actual delivery dates, mothers may have received between 1-6 doses of SP at study end. We calculated Chi square or paired t-tests comparing the effect of single dose vs. 2 or more, 3 or more, and 4 or more doses of SP. Primary outcomes in this analysis were maternal haemoglobin (Hb), placental infection (% positive by histology), infant birth weight (grams), infant cord blood parasitemia (% positive), and gestational age <37 weeks by Dubowitz (%).

**Results:** 394 women completed the trial; placentas were obtained for 360 (91.4%). 34 women received 1 dose of SP; 357 ≥ 2 doses; 178 ≥ 3 doses; and 122 ≥ 4 doses. All outcomes displayed a clear dose dependent benefit of more frequent doses of SP compared with single dose. Infant birth weight and proportion with delayed developmental age at delivery were most sensitive to the effects of higher dose SP.

**Conclusion:** Our data suggest a dose dependant benefit to SP-IPT, though are insufficient to define an optimum breakpoint above which additional doses provide negligible further benefit. Single dose SP was clearly inferior to all other dosing regimens and should not be used - even in the setting of relatively mild malaria transmission as present in this study.

**224. TITLE:** AN OPEN OBSERVATIONAL AND EXPLORATORY CLINICAL TRIALS ON THE SAFETY AND EFFICACY OF THE THREE ZAMBIAN TRADITIONAL HERBAL MEDICINES IN HIV POSITIVE INDIVIDUALS

**Authors:** Chikusu P, Mutemba C and Chitalu N

**Year:** 2006

**Org/Inst:** Ministry of Health and Central Board of Health

**Status:** Completed but not yet published

**Study site(s):** Lusaka

**Source:** Ministry of Health

**Objective:** To investigate the safety and efficacy of selected herbal formulations over a period of six months.

**Materials and Methods:** The total number of participants enrolled in the study was 26 broken down in each group as follows: 10 (5 males and 5 females) in Sondashi group, 11 (4 females and 7 males) in the Mayeyani group and 5 (4 females and 1 male) in the Mailacin group. The clients had not taken any herbal medicine before, including the herbs under study, had never taken ARVs before, had no ongoing active infection (such as TB, pneumonia, meningitis and diarrhoea), female clients were not pregnant, and clients were aged 20-45 years.

The study was administered by the Traditional health Practitioners (THP) using their specific formulations and determined their dosage and dosing frequency as prescribed by them. Samples were subjected to quality control at an independent laboratory using the HPLC method and none of the samples were found with ARVs.

**Results:** No significant changes were observed in viral load over the six months study period; no significant changes in CD<sub>4</sub> count were observed study period; liver and kidney functions remained within acceptable limits; no patient became anaemic over the six

months period; all patients but two registered gaining body weight; all patients had detectable viral load at the end of the six months period

**Conclusion:** There was no evidence of toxicity that could be attributed to the products; there was no significant increase or decrease in viral load/CD<sub>4</sub> was observed during the study period; despite no significant increase or decrease in CD<sub>4</sub> cell count and viral load, the 9 clients out of 26 showed increase in CD<sub>4</sub> cell count with corresponding viral load reduction as follows: for Sondashi formula, were six clients out of ten. Codes 01, 02, 03, 05, 07 and 14; for Mayeyanin formulation, there were two out of eleven. Codes 15 and 19; for Mailacin formulation, there was one out of five. Code 11.

The general well being of improved appetite and weight gain was observed in all the participants except in the two of them.

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**225. TITLE:** **REDUCTION IN PRE-TERM DELIVERY AND NEONATAL MORTALITY AFTER THE INTRODUCTION OF ANTENATAL CO-TRIMOXAZOLE PROPHYLAXIS AMONG HIV-INFECTED WOMEN WITH LOW CD4 CELL COUNTS.**

**Authors:** Ming Li<sup>1</sup>, Jesus F<sup>2</sup> and Salazar-Gonzalez<sup>3</sup> *et al*  
**Year:** 2006  
**Org/Inst:** Departments of Surgery,<sup>1</sup> Medicine, Duke University Medical Center, Durham, North Carolina 27710,<sup>14</sup> Department of Medicine, University of Alabama, Birmingham, Alabama 35294,<sup>2</sup>Department of Pathology and Laboratory Medicine, Emory University, Atlanta, Georgia 30329,<sup>3</sup>  
**Status:** Published by J Infect Dis. 2006 Dec 1;194 (11):1510-8. Epub 2006 Oct 19 by University of Chicago Press  
**Study Site(s):** Lusaka  
**Source:** <http://www.ncbi.nlm.nih.gov>

Cotrimoxazole prophylaxis is recommended for subgroups of human immunodeficiency virus (HIV)-infected adults and children to reduce all-cause morbidity and mortality. We investigated whether antenatal cotrimoxazole prophylaxis begun during pregnancy for HIV-infected pregnant women with low CD4 cell counts would affect birth outcomes.

**Methodology:** Cotrimoxazole prophylaxis was introduced as a routine component of antenatal care for HIV-infected women with CD4 cell counts <200 cells/ micro L during the course of a trial of mother-to-child HIV transmission in Lusaka, Zambia. Rates of pre-term delivery, low birth weight, and neonatal mortality were compared for women with low CD4 cell counts before and after its introduction.

**Results:** Among 255 women with CD4 cell counts <200 cells/ micro L, the percentage of pre-term births (< or =34 weeks of gestation) was lower (odds ratio [OR], 0.49 [95% confidence interval {CI}, 0.24-0.98]) after cotrimoxazole prophylaxis was introduced than before; there was a significant decrease in neonatal mortality (9% to 0%; P=.01) and a trend toward increased birth weight ( beta =114 g [95% CI, -42 to 271 g]). In contrast, there were no significant changes in these parameters over the same time interval among women with CD4 cell counts > or =200 cells/ micro Liter.

**Conclusion:** Antenatal provision of cotrimoxazole for HIV-infected pregnant women with low CD4 cell counts may have indirect benefits for neonatal health.

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<b>226. TITLE:</b>	<b>INCREASES IN HIV PREVALENCE AND PRIOR TESTING AT A COUPLES VOLUNTARY COUNSELLING AND TESTING AND RESEARCH CENTER IN LUSAKA, ZAMBIA</b>
<b>Authors:</b>	Fraser-Bell A., Allen S. Rwanda/Zambia HIV Research Group <sup>1</sup>
<b>Year:</b>	2002-2005
<b>Org/Inst:</b>	Rwanda/Zambia HIV Research Group
<b>Status:</b>	Published in the 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe15.4P15
<b>Study Site(s):</b>	Lusaka
<b>Source:</b>	The 3rd IAS Conference on HIV Pathogenesis and Treatment: Abstract no. TuPe15.4P15

**Introduction:** The Zambia-Emory HIV Research Project (ZEHRP) in Lusaka, Zambia has provided couples voluntary counselling and testing (CVCT) for HIV since April 1994. Recently, HIV prevalence and self-report of prior testing have increased.

**Methodology:** HIV prevalence and prior testing are described for 7774 couples attending ZEHRP CVCT between January 2002 and February 2005. Data are compared with over 10,000 couples tested from 1995-2000 and 665 couples tested at two antenatal clinics in 2001. All clients received HIV results, counselling, and condom skills training as a couple.

**Results:** From 1995-2000, 57% of couples were concordant negative (--), 20% discordant (+-), and 23% concordant positive (++). At two antenatal clinics in 2001, 3-8% of women reported previous HIV testing.

From 2002-2005, the proportion of concordant positive, discordant, and concordant negative couples changed from 28% (++), 20% (+-), and 52% (--) in 2002 to 36% (++), 18% (+-), and 46% (--) in 2005. The proportion of clients previously tested at non-ZEHRP clinics increased from 9% of women and 7% of men in 2002, to 28% of women and 17% of men in 2005. The proportion of couples with both partners previously tested increased from 4% to 14%, and the proportion with neither partner previously tested decreased from 87% to 62%. Many women reported previously testing at antenatal clinics. ARV programs opened at nearby government clinics in quarter four of 2004, and the proportion of couples with at least one HIV+ partner increased from 53% to 58% during that time.

**Conclusions:** At ZEHRP, the proportion of clients previously tested for HIV has steadily increased in the last 3 years. This corresponds with the introduction of PMTCT and VCT programs, and confirms that these services are encouraging individuals to test with their spouses. Although most HIV-positive individuals are asymptomatic at VCT, simple symptom-based ARV referral procedures are needed.

<b>227.</b>	<b>TITLE:</b>	<b>RESEARCH INITIATIVE IN TRADITIONAL ANTIMALARIALS AND ANTI-HIV, AIDS IN ZAMBIA</b>
	<b>Authors:</b>	Mthetwa J,
	<b>Year:</b>	2001
	<b>Org/Inst:</b>	Tropical Diseases Research Centre (TDRC)
	<b>Status:</b>	Published in an Abstract Book, 3 <sup>rd</sup> National Health Research Conference
	<b>Study Site(s):</b>	-
	<b>Source:</b>	Abstract Book, 3rd National Health Research Conference, Zambia

Throughout the world, medical science has had some notable deficiencies resulting in doubtful practices and worrying attitudes. In developing countries like Zambia modern health infrastructure is characterized by lack of physicians, paramedical staff and medical bills that are unaffordable to the general population. The search for solutions in many health problems lies in the exploration of traditional medicine. The Traditional healer remains to a large extent the focal point of the search for therapy for Malaria and HIV/AIDS in Zambia and Africa as a whole.

Research Initiative on Traditional Anti-malarial and anti-HIV/AIDS Methods in Zambia (RITAM- ZAMBIA) is will be a non-profit making organization whose general objective is to promote research in traditional medicine. It is an organization that seeks to identify, promote and encourage research in traditional medicines as part of the delivery health services in Zambia. The aim of RITAM-ZAMBIA will be to identify ways in which traditional medicine can effectively contribute to the fight against Malaria and HIV/AIDS. The most fundamental challenge is the planning and implementation of collaborative activities within Zambia and with others outside Zambia.

RITAM-ZAMBIA shall collect and classify traditional medicines used in the treatment and prevention of Malaria and HIV/AIDS and analyse for their safety, efficacy and toxicity.

RITAM-ZAMBIA will carry out all the necessary coordination in research work on traditional medicines and provide information pro-actively as well as respond to queries from the community by use of published articles and documents. Information on traditional medicine is important in keeping traditional healers as well as other users of traditional medicines well informed. RITAM-ZAMBIA will provide members of the public with an opportunity to understand better the aspects concerning usage and safety of traditional medicines. RITAM-ZAMBIA will provide information in the following components:

<b>228.</b>	<b>TITLE:</b>	<b>KNOW YOUR HIV AND AIDS EPIDEMIC IN ZAMBIA</b>
	<b>Authors:</b>	Macwangi M and Phiri B
	<b>Year:</b>	2007-2008
	<b>Org/Inst:</b>	National HIV, AIDS, STIs and TB Council and The Joint United Nations programme on HIV and AIDS
	<b>Status:</b>	Ongoing
	<b>Study Site(s):</b>	National
	<b>Source:</b>	Preliminary report submitted to NAC on "Know Your HIV and AIDS Epidemic" in Zambia.

**Objectives:** The general purpose of this study was to determine HIV Incidence among adult population groups with risk behaviours and to collect information that would facilitate the development of the road map to "Know your HIV and AIDS Epidemic" in Zambia.

**Methodology:** This work was guided by the "Know Your HIV and AIDS Epidemic" Model. The work involved extensive literature review of relevant national and regional research reports and documents. A structured questionnaire was used to collect information from research institutions and researchers. To solicit input from a wide audience, the draft report was reviewed by key personnel at NAC and UNAIDS and a dissemination and consensus meeting with the HIV and AIDS Prevention Theme Group and researchers was held.

**Results:** Preliminary results of this work show that among the Zambian population most adults were in the category of *Low Risk Heterosexual (LRH)*. This category accounted for about half the adult population and includes adults in mutual monogamous or serial monogamous couples where the only risk is thorough discordance. The next category, *Casual Heterosexual (CHS)* includes adults who have had more than one partner in the last 12 months or who have had sex with a none-regular, non-cohabiting partner. It accounted for about 17%. The next group was *Clients of Female Sex Workers* and accounted for about 10% of the adult population, *No Risk Heterosexual* i.e. adults that do not inject drugs and are not involved in any sexual activity (UNAIDS 2007) was 9% and *Partners of CHS* was 8%. Others were *Partners of Clients of Female Sex Workers* 5%, *Female Sex Workers* 2.7%, *Men having Sex with other Men (MSM)* 0.03% and *Partners of MSM* 0.02%. There was no data on adults who are injecting intoxicating drugs i.e. *Injecting Drug Use*. HIV Incidence i.e the cumulative number of cases of HIV infections in 12 months, was highest in the *Low Risk Heterosexual* at 29% followed by *Casual Heterosexual Sex* at 19% and their *Partners* at 14%. *Clients of Female Sex Workers* was 10%, *Partners of Clients of Female Sex Workers* was 8% and the rest were below 0%.

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## 3.6 THEME VI. INTEGRATING ADVOCACY AND COORDINATION OF THE MULTI-SECTORAL RESPONSE

The overall objective of **Integrating Advocacy and Coordination of the Multi-sectoral response** to strengthen capacity for advocacy and coordination by all partners and strengthen the enabling framework to facilitate a sustainable scale up of service delivery

- i. Strengthen the institutional and the legal framework
- ii. Improve coordination and resolve areas of application and gaps in the multisectoral response to HIV and AIDS to include resource management
- iii. Advocate for mainstreaming effective policy implementation and fighting stigma and discrimination
- iv. Promote effective leadership for the multisectoral response for HIV and AIDS

This section consists of abstracts that address the fore-going strategic objectives

### ***Strategic objective 25: Strengthen the institutional and the legal framework***

<b>229.</b>	<b>TITLE:</b>	<b>HUMAN-RIGHTS BASED APPROACHES TO HIV/AIDS IN TWO AFRICAN COUNTRIES</b>
	<b>Authors:</b>	Patterson D <sup>1</sup> , Falconer D. A <sup>1</sup> and Forman L <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	<sup>1</sup> Canadian HIV/AIDS Legal Network, Montreal, Canada; <sup>2</sup> Faculty of Law, University of Toronto, Toronto, Canada; <sup>3</sup> University of Toronto, Toronto, Canada
	<b>Status:</b>	Published in an Abstract Book for the XV International AIDS Conference: Abstract no. MoPeE4191
	<b>Study Site(s):</b>	
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. MoPeE4191

**Issues:** While the importance of respecting human rights in responding to the HIV/AIDS epidemic is generally acknowledged, practical applications of these principles in international development programming have not been widely explored or documented. This two-year project supported rights-based approaches to law and policy reform in Kenya and Zambia.

**Description:** Legal organizations addressing HIV/AIDS issues in each country were identified. Initial assessments indicated the need for organizational development training and support as well as assistance with substantive issues relating to HIV/AIDS law, ethics and human rights in each country. Four technical assistance missions and one final project evaluation mission were undertaken in 2003.

**Lessons learned:** Each organization developed a three-year strategic plan, and used the project as a springboard for related activities. Both organizations were strengthened as national institutions. Both organizations have had a significant input into human rights-orientated reform of law and policy in their respective countries over the project period, and in promoting a rights-based approach amongst legal practitioners and decision-makers. Regional linkages and linkages with the Canadian counterpart were also strengthened. The

Canadian partner organization increased its understanding of the challenges of both organizational development and HIV/AIDS law and policy reform in resource poor settings. Rights-based approaches provide both a theoretical basis and practical guidance for law and policy reform. National organizations of lawyers and others formed to address HIV/AIDS issues can advance these approaches with legal technical and other support from Canadian counterparts.

**Recommendation:** Legal organizations addressing HIV/AIDS should be supported, and this experience documented and shared, including through regional networks.

**Strategic objective 26:** *Improve coordination and resolve areas of application and gaps in the multisectoral response to HIV and AIDS to include resource management*

No appropriate abstracts were submitted

**Strategic objective 27:** *Advocate for mainstreaming effective policy implementation and fighting stigma and discrimination*

230.	<b>TITLE:</b>	THE ROLE OF FAITH-BASED ORGANIZATION'S IN HIV/AIDS ADVOCACY AND POLICYMAKING
	<b>Authors:</b>	Taylor A. R. T
	<b>Year:</b>	2002
	<b>Org/Inst</b>	-
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. MoPeE4085
	<b>Study Site(s):</b>	South Africa, Zambia, and Haiti
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. MoPeE4085

FBO's are already playing a key role in raising money and providing services around HIV/AIDS prevention, care and treatment across the world. However, many religious organizations have been slow or reluctant to address the political issues around AIDS due to fears and stigma around sex, sexuality, and drug use. FBO's have played instrumental roles in advocating on behalf of marginalized and impoverished people and in social justice movements.

**Objectives:** This presentation will explore the barriers, opportunities, and experiences of FBO's in HIV/AIDS advocacy. The presentation will explore the importance of FBO's around public policy and legislation and the implications of FBO involvement in such advocacy efforts. Due to the experience and nationality of the presenter, the presentation will focus on the role churches have played in the United States around HIV/AIDS advocacy. However, the presentation will also examine case studies of FBO involvement in South Africa, Zambia, and Haiti. FBO's, particularly predominantly white, evangelical leaders and denominations in the U.S. played a crucial role in influencing and shaping the President's Emergency AIDS Relief Plan, particularly in terms of pressuring Congress to include abstinence only language in Congressional bills. We will explore the implications of religious beliefs on HIV/AIDS policymaking and programming.

**Results:** We will also analyse a case study from a coalition of black churches in Boston through the Black Ministerial Alliance that elected to make HIV/AIDS one of its core

committees after an advocacy campaign was conducted from within the coalition. The Coalition has been vocal in the state of Massachusetts and in the city of Boston around HIV/AIDS issues. We recommend that FBO's develop policy statements surrounding HIV/AIDS and that they work increasingly in collaboration with other advocates to bring greater moral urgency to the fight against HIV/AIDS.

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<b>231.</b>	<b>TITLE:</b>	<b>HIV/AIDS IMPACT ON THE ZAMBIAN HEALTH SYSTEM</b>
	<b>Authors:</b>	Sundewall J. <sup>1</sup> , Cheelo C. <sup>2</sup> , Mphuka C. <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2005
	<b>Org/Inst:</b>	<sup>1</sup> Ministry of Health, <sup>2</sup> Ministry of Finance and <sup>3</sup> National AIDS Council/NAC
	<b>Status:</b>	Published in an Abstract Book for <i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. CDD1201
	<b>Study Site(s):</b>	Mufulira and Siavonga
	<b>Source:</b>	<i>AIDS 2006 - XVI International AIDS Conference</i> : Abstract no. CDD1201

**Background:** HIV/AIDS (HIV) impact on health systems is becoming increasingly recognized. It is not contested that the pandemic is placing added burden to already overstretched public health care systems in low-income countries. There is however limited evidence on where and how HIV impacts health systems. We report findings from a pilot study conducted in Zambia which tried to identify areas of impact of HIV on the Zambian public health care system. The study focused on the impact on the organization and management of the health system.

**Methodology:** The main method of data collection was semi structured interviews with national and district level respondents. At national level, representatives of donor agencies, government of Zambia (Ministry of Health, Ministry of Finance and National AIDS Council/NAC), NGOs and civil society organizations were conducted. Data was also collected at district level where district officials and NGOs in two districts (Mufulira and Siavonga) were interviewed. In addition to the interviews, an extensive review of policy documents relating to HIV-programmes and structures was conducted.

**Results:** The study revealed several interesting findings. It indicated that power relationships between government structures were sometimes unclear. For example, the relationship and division of responsibility between the MoH and the NAC. Also, the mandate and capability of the National AIDS Council to coordinate a multi-sectoral response to HIV was questioned. Secondly, there were indications from the study that there are difficulties when it comes to coordinating efforts for HIV, especially at district level. Respondents indicated that coordination of HIV-efforts seem to vary between district and between programmes.

**Conclusions:** We are reluctant to draw strong conclusions from this pilot study. We, however, identified important areas for future research, namely how coordination of donor activities in HIV is undertaken, and the role of NAC in particular and the health sector in general in coordinating multi-sectoral responses to HIV.

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<b>232.</b>	<b>TITLE:</b>	<b>GENDER-BASED ABUSES AND WOMEN'S HIV TREATMENT IN ZAMBIA</b>
	<b>Authors:</b>	Human Rights Watch
	<b>Year:</b>	2006-2007

**Org/Inst:** Human Rights Watch  
**Status:** Published by Human Rights Watch  
**Study Site(s):** Copperbelt and Lusaka Provinces  
**Source:** Human Rights Watch Volume 19, No. 18(A)

**Description:** Zambia is one of many countries setting ambitious targets for rapidly scaling up antiretroviral treatment for HIV/AIDS and is making impressive progress. It is addressing a range of obstacles to treatment and receiving substantial donor support to overcome them. However, women's unequal status in Zambian society gravely undermines their ability to access and adhere to antiretroviral treatment (ART), and the government is paying little if any attention to the gender dimension of treatment, especially the impact of entrenched discrimination and gender-based violence and abuse.

**Objectives:** Human Rights Watch investigated the negative impact of gender-based human rights abuses on women's access and adherence to HIV treatment in two provinces in Zambia, Lusaka and the Copperbelt, in 2006 and 2007. Women there told Human Rights Watch how beatings and rapes by their intimate partners, emotional and verbal abuse, loss of property upon divorce or death of a spouse, and fear of such abuses affected their access and adherence to HIV treatment. The abuses thwarted their ability to seek HIV information and testing, discouraged them from disclosing their HIV status to partners, delayed their pursuit of treatment, and hampered their ability to adhere to HIV treatment regimens.

**Recommendations:**

To the Zambia National Assembly

- Ensure that as the draft constitution is finalized, provisions on equality before the law regardless of sex, and provisions prohibiting any law, culture, custom, or tradition that undermine the dignity, welfare, interest or status of women or men are retained in the final version.
- Adopt specific legislation to prevent and remedy sexual and domestic violence. This should include civil and criminal judicial remedies, and the provision of services to survivors.

To the Ministry of Justice and the Gender in Development Division

- Support efforts to review and transform discriminatory aspects of customary law.

To the Cabinet Committee on AIDS, the National AIDS Council, the Ministry of Health, and the Gender in Development Division

- Facilitate the establishment and implementation of programs in the healthcare system to address gender-based abuses, as follows:
- Establish a multi-sectoral taskforce that would study different models for addressing gender-based abuses in health settings (see Appendix II), devise a model that is effective and appropriate for Zambia, pilot it, and implement it in the nine provinces.

Integrate initiatives addressing gender-based abuses, especially gender-based violence, into ART and HIV programs.

233.	<b>TITLE:</b>	<b>THE IMPACT OF HIV/AIDS AND AIDS POLICIES ON WORKERS AND CAREGIVERS OF FBOS AND NGOS IN ZAMBIA AND ZIMBABWE</b>
	<b>Authors:</b>	Chishimba S. Zanamwe L. Chifwepa K. <i>et al</i>
	<b>Year:</b>	2004

<b>Org/Inst:</b>	Catholic Centre for Justice Development and Peace, and Development Associates
<b>Status</b>	Published in the Abstract Book <i>AIDS 2006</i> - XVI International AIDS Conference Abstract no. WEPE0987
<b>Study Site(s):</b>	Zambia and Zimbabwe
<b>Source:</b>	Abstract Book <i>AIDS 2006</i> - XVI International AIDS Conference Abstract no. WEPE0987

**Background:** Faith Based Organisations (FBOs) and Non-governmental Organisations (NGOs) have pioneered advocacy for workplace HIV/AIDS policies. However, there are a few NGOs and FBOs that have workplace policies in their organisations to protect employees and caregivers. A study conducted between January and April 2004 in Zambia and Zimbabwe by the Catholic Centre for Justice Development and Peace, and Development Associates sought to establish the impact of HIV/AIDS and polices on the performance of organizations and coping mechanisms.

**Methodology:** A sample size of 40 FBOs and NGOs was selected. Structured questionnaires, Focus Group Discussions and in-depth interviews with key informants were used for data collection. Quantitative analysis was done using SPSS.

**Results:** 75% of organizations did not have AIDS policies in both countries. For the few organizations with workplace policies, 33.3% and 100% of employees reported that employers terminated contracts of employees sick of suspected HIV/AIDS in Zambia and Zimbabwe respectively. 30.8% of respondents in Zambia reported that sex took place with fellow employees, while 59.5% indicated that sexual partners were outside the workplace. AIDS related mortality; 43.9% and 18.5% of organizations in Zambia and Zimbabwe respectively reported loss of at least one employee to HIV/AIDS (55% of employees who died were males). 92.7% and 67.6% of organizations in Zambia and Zimbabwe respectively reported employee absenteeism related to HIV/AIDS funerals and sicknesses of their relatives. Interventions reported included awareness campaigns and referrals for VCT.

**Conclusions:** Even though NGOs have pioneered HIV/AIDS prevention, care and support for communities, interventions that target their own employees and volunteers are either inadequate or non-existent. This presents a silent crisis, which would have debilitating impacts in future. FBOs and NGOs need to set the pace in order to inspire the private sector and governments to take action.

#### **Strategic objective 28: Promote effective leadership for the multisectoral response for HIV and AIDS**

234.	<b>TITLE:</b>	TRACKING GLOBAL FUND POLICY PROCESSES IN FOUR AFRICAN COUNTRIES
	<b>Authors:</b>	Brugha R. <sup>1</sup> , Oliff M. <sup>2</sup> , Vongo R. <sup>3</sup> et al
	<b>Year:</b>	2003
	<b>Org/Inst:</b>	<sup>1</sup> London School of Hygiene and Tropical Medicine, London WC1E 7HT, United Kingdom; <sup>2</sup> Institute of Public Health, Makerere University, Uganda, <sup>3</sup> Traditional Healers and Practitioners Association of Zambia (THPAZ)
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. MoOrE1037
	<b>Study Site(s):</b>	Mozambique, Tanzania, Uganda and Zambia

**Source:** The XV International AIDS Conference: Abstract no. MoOrE1037

**Background:** The Global Fund to Fight AIDS, Tuberculosis and Malaria is a new financial instrument providing large resources to disease afflicted countries. 60% of funds have been approved for HIV/AIDS control, most to Africa. While too early to assess its impact, we report findings on the functioning of new country structures, which will be critical to the Fund's success.

**Methodology:** Semi-structured interviews were conducted in mid 2003 with 137 national level stakeholder representatives, including 65% of Country Co-ordination Mechanism (CCM) members in Mozambique, Tanzania, Uganda and Zambia. Further data collection and interviews will be conducted, February-May 2004.

**Results:** CCMs were not yet well embedded in country systems, partly due to uncertainties around their purpose once Fund support had been approved. Competitive tensions, as well as lack of clarity, were evident in their remit vis-à-vis national AIDS authorities. The Global Fund was supporting the development of new partnerships between government, private-for-profit and civil society sectors, although the latter's expectations were difficult to contain and mistrust among partners was evident in some settings. The Fund was also catalysing the development of country policies around access to antiretroviral treatment. Governments were attempting to manage multiple new HIV/AIDS financing initiatives, including World Bank MAP and Clinton Foundation which, if well co-ordinated, could improve treatment access and HIV control.

**Conclusions:** Greater coherence and co-ordination among financing and technical agencies are required, if global and country HIV/AIDS goals are to be reached. These and further findings from field work in 2004 (on CCM, Principal Recipient, disbursement and Local Fund Agent processes) will provide important early lessons on policy and systems opportunities and obstacles to the Global Fund's success.

235.	<b>TITLE:</b>	A REVIEW OF POLICIES, GUIDELINES AND PROGRAMS IN VOLUNTARY COUNSELING AND TESTING (VCT) IN EAST, CENTRAL, AND SOUTHERN AFRICA (ECSA)
	<b>Authors:</b>	Ndyanabangi B. A
	<b>Year:</b>	2002
	<b>Org/Inst:</b>	-
	<b>Status:</b>	Published in The XV International AIDS Conference: Abstract no. WeOrE1265
	<b>Study Site(s):</b>	Kenya, Malawi, Uganda, Zambia, and Zimbabwe.
	<b>Source:</b>	The XV International AIDS Conference: Abstract no. WeOrE1265

**Background:** The burden of HIV is beyond what the national health systems in ECSA can handle, and efforts to scale up effective programs have intensified. VCT is recognized as central to combating the epidemic through prevention and care. Access to antiretroviral therapy is increasing; however, only about 10% of people who are infected know their status and can take advantage of therapy. This review provides an overview of VCT policies, programs, and guidelines available in ECSA.

**Methodology:** A study team elicited responses from national AIDS program managers using a detailed questionnaire; they interviewed VCT staff and primary stakeholders, conducted a literature review on VCT in ECSA, and visited program in Kenya, Malawi, Uganda, Zambia, and Zimbabwe.

**Results:** Most HIV testing is initiated not by the client but by employers, insurers, or institutions of higher learning. In their national HIV/AIDS policy documents, ECSA countries recognize that VCT is critical to controlling HIV/AIDS, but only Botswana, Mauritius, Uganda, and Zimbabwe have national VCT policies. Most of the guidelines were developed by nongovernmental organizations and are not comprehensive. Except in Kenya, and soon, Malawi, Swaziland, and Uganda, no guidelines cover all aspects of VCT. Except for Mauritius and Seychelles, where VCT services are offered in integrated sites, countries are using a combination of VCT models and integrating VCT into other health services.

**Conclusions:** Issues that lend themselves to regional collaboration include harmonization of policies; guidelines for counselling, testing, data collection, and training curricula; procurement of test kits; and resource mobilization. Other issues include creating awareness and demand for VCT, strengthening human resources and infrastructure, and ensuring high quality service. The focus will be on scaling up and providing high-quality VCT service, strengthening post-test support services, and monitoring the quality of care.

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236.	<b>TITLE:</b>	<b>REDUCTION IN PRE-TERM DELIVERY AND NEONATAL MORTALITY AFTER THE INTRODUCTION OF ANTENATAL CO-TRIMOXAZOLE PROPHYLAXIS AMONG HIV-INFECTED WOMEN WITH LOW CD4 CELL COUNTS.</b>
	<b>Authors:</b>	Ming Li <sup>1</sup> , Jesus F <sup>2</sup> and Salazar-Gonzalez <sup>3</sup> <i>et al</i>
	<b>Year:</b>	2006
	<b>Org/Inst:</b>	Departments of Surgery, <sup>1</sup> Medicine, Duke University Medical Center, Durham, North Carolina 27710, <sup>14</sup> Department of Medicine, University of Alabama, Birmingham, Alabama 35294, <sup>2</sup> Department of Pathology and Laboratory Medicine, Emory University, Atlanta, Georgia 30329, <sup>3</sup>
	<b>Status:</b>	Published by J Infect Dis. 2006 Dec 1;194 (11):1510-8. Epub 2006 Oct 19 by University of Chicago Press
	<b>Study Site(s):</b>	Lusaka
	<b>Source:</b>	<a href="http://www.ncbi.nlm.nih.gov">http://www.ncbi.nlm.nih.gov</a>

Cotrimoxazole prophylaxis is recommended for subgroups of human immunodeficiency virus (HIV)-infected adults and children to reduce all-cause morbidity and mortality. We investigated whether antenatal cotrimoxazole prophylaxis begun during pregnancy for HIV-infected pregnant women with low CD4 cell counts would affect birth outcomes.

**Methodology:** Cotrimoxazole prophylaxis was introduced as a routine component of antenatal care for HIV-infected women with CD4 cell counts <200 cells/ micro L during the course of a trial of mother-to-child HIV transmission in Lusaka, Zambia. Rates of pre-term delivery, low birth weight, and neonatal mortality were compared for women with low CD4 cell counts before and after its introduction.

**Results:** Among 255 women with CD4 cell counts <200 cells/ micro L, the percentage of pre-term births (< or =34 weeks of gestation) was lower (odds ratio [OR], 0.49 [95% confidence interval {CI}, 0.24-0.98]) after cotrimoxazole prophylaxis was introduced than before; there was a significant decrease in neonatal mortality (9% to 0%; P=.01) and a trend toward increased birth weight ( beta =114 g [95% CI, -42 to 271 g]). In contrast, there were no significant changes in these parameters over the same time interval among women with CD4 cell counts > or =200 cells/ micro Liter.

**Conclusion:** Antenatal provision of cotrimoxazole for HIV-infected pregnant women with low CD4 cell counts may have indirect benefits for neonatal health.

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## APPENDICES

### I. LIST OF HIV AND AIDS, STIs AND TB STUDIES REVIEWED AND APPROVED BY RESEARCH ETHICS COMMITTEES

#### LIST OF RESEARCH PROPOSALS REVIEWED AND APPROVED BY THE UNIVERSITY OF ZAMBIA (UNZA) 2003-2007

S/n	Rec Ref Number	Name	Proposal
			<b>2002</b>
1	007-02-02	Elizabeth Stringer, Christine Kaseba	Randomised controlled trial of intrauterine contraception device (IUD) Vs hormonal contraception in HIV infected women
2	007-02-02	Elizabeth Stringer	Birth spacing with IUD among HIV-infected women in Zambia
3	005-10-02	Mpundu Makasa	HIV Prevention preparedness Study
			<b>2003</b>
4	Exp-01-03-02	Steward Reid	HPTN 039/Phase III randomised, double blind, placebo-controlled trial of acyclovir for the reduction of HIV acquisition among high-risk HSV- 2 seropositive, HIV seronegative individuals
5	004-03-03	Moses Sinkala	Monitoring antiretroviral coverage among HIV infected women delivering in the Lusaka District Clinics and UTH
6	004-10-03	Dara Potter	Impact of Programs to prevent mother-to-child HIV transmission on antenatal syphilis screening in Lusaka, Zambia
7		Brown Kamanga	Randomised pilot trial of nutritional supplement intervention with trace elements (zinc and selenium) in adults with AIDS
8	002-07-03	Honest N. Banda	Trends in family planning programmes and HIV/AIDS in Zambia
9	006-11-03	Joseph Banda	HIV/AIDS in the Zambia Defence Force: Prevalence, impact on health and well-being, and attitude towards people living with HIV/AIDS
10	002-11-03	Leoda Hamomba	A study to determine the factors associated with the risks of HIV/AIDS transmission during home and health centre deliveries in Siavonga District
11	009-05-03	Ray Handema	To study the immuno-stimulating capacity of Agaricus Blazei Practical Compound (ABPC) in HIV-1-infected Zambians

12	003-07-03	Trevor Kaile	Electrolyte and water handling in patients with AIDS-related persistent diarrhoea and malnutrition
13	010-06-03	Mubiana Macwan'gi	Impact of HIV/AIDS on the professional labour force in the public healthcare system in Zambia
14	001-05-03	Maureen Muchimba	The health-seeking behaviour of adolescent females with STDs in Lusaka, Zambia: implications for STD management and control
15	010-05-03	Mulundu Georgina	Adoptive immunotherapy against HIV opportunistic infections (particularly Kaposi's sarcoma)
16	003-09-03	Panganani D. Njobvu	HIV-associated spondyloarthropathy in black Zambians: infectious triggers, immunogenetic factors, natural history and immunological status
17	005-06-03	Joackim Nthawie	Listening to the cry of nurses: an exploratory study of occupational stress factors and religion and social support as significant coping strategies among Zambian Nurses working with patients in critical care
18	004-09-03	Jean B. Nzayisenga	Topical steroids: an alternative to circumcision for treatment of phimosis
19	010-04-04	William O. Osamoah	Assessment of delivery of malaria control and PMTCT programmes to women attending antenatal services in Lusaka, Zambia
20	005-08-03	Lizzie Peme	ZIHP End-of-Project Survey
21	007-0703	Simone P. Porter	A qualitative study examining different beliefs about HIV care and treatment in communities in Lusaka, Zambia
22	004-10-03	Dara Potter	Impact of programmes to prevent mother-to-child HIV transmission on antenatal syphilis screening in Lusaka, Zambia
23	011-06-03	Sydney Rosen	The impact of chronic morbidity and mortality on smallholder agricultural production in Zambia
24	010-07-03	Savitha Subramanian	A study of nutritional programmes catering for orphans and vulnerable children and people living with HIV/AIDS in Lusaka, Zambia
25	007-11-03	Noriko Sugimoto	Investigation of socio-individual factors affecting adherence to highly active antiretroviral therapy among people living with HIV/AIDS in Lusaka, Zambia
26	008-07-03	Yupin Suputtamongkol	A randomized placebo-controlled trial of nitazoxanide for treatment of cryptosporidiosis in subjects with AIDS and CD4+ Lymphocyte counts<50/mm <sup>3</sup>

27	007-06-03	Sierra Washington	Barriers to PMTCT uptake in Zambia: a qualitative study
			<b>2004</b>
28	012-02-04	Benjamin Chi	Evaluation of reproductive health-related mortality among previous antenatal attendees tested for HIV
29	011-03-04	Elwyn Chomba	Neonatal resuscitation in developing countries: Zambia
30	005-06-04	Benjamin Chi	Additional of single-dose, maternal tenofovir and emtricitabine to reduce ARV RESISTANCE MUTATIONS OF hiv in the setting to zidovudine
31	001-10-04	Jeffrey Stringer	Effectiveness of nevirapine containing ART in women with prior
32	001-07-04	Jeffrey Stringer	Health survey for monitoring and evaluation of Lusaka District HIV care and treatment programme
33	006-07-03	Fredah Zulu	Experience of non-traditional students enrolled in the registered nursing programme in Zambia
34	003-12-04	April	Dynal T4 Quant CD4 testing with use of Cyto-Chex preservative to store blood samples for up to 10 days prior to CD4 testing in HIV-positive Zambian Defence Force beneficiaries
35	007-10-04	Helen Ayles	ZAMSTAR: Zambia and South Africa Tuberculosis and AIDS Reduction Study
36	003-10-04	George Chigali	To determine the barriers to the adoption of safer sex practices in women in Livingstone, Southern Province, Zambia
37	004-07-04	Sarah Chishimba	Utilisation of voluntary counseling and testing (VCT) services among youths aged between 18 and 24 years in selected institutions of higher learning in Lusaka
38	001-08-04	Sampa Chitambala-Otionalo	Antiretroviral drugs in the workplace: has this encouraged workers to know their HIV status?
39	006-03-04	Frank Feeley	An analysis of HIV infection in the Zambian public health sector
40	005-10-04	Suzanne Filteau	Modification of complementary foods to improve health and development of infants in Zambia, a country affected by HIV
41	012-02-04	Robert Goldenberg	The addition of zidovudine and lamivudine to a standard intrapartum nevirapine regimen to reduce post-delivery antiretroviral resistance of HIV
42	008-09-04	Getrude Gundumure-Tshuma	Improving prevention of mother-to-child transmission at UTH Lusaka: a participatory research

43	008-04-04	Francis Kasolo	Operational research on integration of community-based Directly Observed Treatment Short Course (DOTS) for Tuberculosis and Anti-Retroviral Therapy (ART)
44	002-05-04	Lackson Kasonka	Follow-up study of the health and nutrition of mothers and infants from the Breastfeeding and Postpartum Health Study
45	003-10-04	Mary Katepa-Bwalya	Feeding practices and nutritional status in infants and young children in Kafue and Mazabuka
46	002-11-04	Karen Mezazzini	Optimizing population coverage through enhancement of labour ward PMTCT services
47	006-04-04	Mwaka Monze	Measles vaccine coverage and safety in HIV-infected children following a mass measles immunization campaign
48	010-02-04	Simon Mphuka	Coping mechanisms with respect to the impact of HIV/AIDS on health workers in two districts in Zambia
49	003-02-04	Valepi Mtonga	Community education and referral: supporting adherence to anti-retroviral treatment and prevention for people with HIV in Zambia
50	007-02-04	Musso Munyeme	An investigation on the possible relationship of human and animal tuberculosis in the interface areas of the national parks in the Kafue basin
51	004-10-02	Abigail Musonda	Baseline on psychosocial support for orphans, other vulnerable children, and youth
52	003-07-04	Lungwani T. Muungo	Prospective pilot trial of tetrasilver tetroxide (TST) vs. standard drug therapy in patients with AIDS and related opportunistic infections
53	007-11-04	Margaret T. Mwanamwenge	An intervention study to institute a process of continuous quality improvement of service for the control of malaria during pregnancy
54	006-09-04	Kabemba E. Mwape	The prevalence and differentiation of human <i>Taenia</i> spp. By morphological examination and PCR-restriction fragment polymorphism in Zambia
55	007-06-04	Alywn Mwiinga	Establishing routine HIV counseling and testing for TB patients in the Livingstone District of the Southern Province of Zambia
56	009-02-04	Kayombo Ndonji	Determination of factors associated with the use of ITNs by pregnant women, under-five children and secondary school pupils in Kalabo District – Zambia

57	003-08-04	Phillimon Ndubani	Uptake of youth-friendly health services in Lusaka, Zambia: the gender perspective
58	010-03-04	Esther Nkandu	To what did they consent? An audit of the consent process as seen in a study conducted in Mazabuka, Zambia
59	001-09-04	Alick Nyirenda	Medical pluralism in Zambia: Options for health-seeking or increased dilemmas for people living with HIV/AIDS (an in-depth exploratory study in 4 selected districts)
60	001-05-04	Groebeck Parham	Cervical cancer screening among HIV-infected women in Zambia
61	007-04-04	Antonina Ponga-Yashini	Investigation into the effectiveness of interventions to reduce HIV-related stigma within the workplace
62	014-02-04	Lynette Schumaker	The necessity of history: contextualizing the introduction of anti-retroviral treatment in Zambia
63	002-02-04	Mercy Nomusa Sibande	An investigation of the impact of voluntary counseling and testing on reported sexual behaviour in clients accessing HIV testing at the Chipata ProTEST site in Lusaka
64	004-04-04	Felix Silwimba	Care of orphans in traditional foster homes (extended family care) in Lusaka District
65	005-06-04	Moses Sinkala	Addition of single-dose, maternal tenofovir and emtricitabine to reduce ARV-related resistance mutations of HIV in the setting of zidovudine and nevirapine for prevention of mother-to-child HIV transmission
66	005-02-04	Gerhard Sissolak	Prospective, randomized, open-label pilot trial of the effects of protease based regimens of highly active antiretroviral therapy (HAART) in patients with AIDS
67	001-12-04	Yoram K. Siulapwa	HIV infection among minibus and taxi drivers in Lusaka Urban: prevalence and risk factors associated with HIV infection

68	004-11-04	Alison Smith	A study of the effectiveness of a family planning promotional intervention with a focus on future planning targeting HIV-infected couples in Lusaka, Zambia
69	006-02-04	Joana M. Stallworth	Cultural beliefs and attitudes of Zambians regarding HIV research participation
70	002-10-04	Elizabeth Stringer	A5208/OCTANE: Optimal combination therapy after having nevirapine exposure
71	001-01-04	Jeffrey S. A Stringer	Observational study of treatment effectiveness and resistance patterns among women initiating treatment with non-nucleoside reverse-transcriptase inhibitor-based HAART after previous single-dose nevirapine (SD NVP) in pregnancy
72	005-11-04	Donald M. Thea	Impact of single-dose perinatal nevirapine prophylaxis in the development of genotypic and clinical resistance among HI-infected women placed on therapeutic HAART
73	001-01-03	Sten Vermund	Antihelminthic therapy to slow HIV progression in children
74	015-02-04	Pierre Yassa	Conococcal culture and sensitivity study in Lusaka Urban, 2004
75	002-09-04	Felistah Yavwa	Prevalence of cytomegalovirus, Epstein Barr and herpes virus in HIV-seropositive adult patients with gastrointestinal disease in the University Teaching Hospital
76	003-11-04	Dalila Zachary	Evaluation of mortality among patients on antiretroviral therapy in Lusaka, Zambia
77	007-09-04	Richard Zulu	Improving the effectiveness of HIV prevention among young people: a study on factors affecting differential geographical HIV transmission trends in Zambia
			<b>2005</b>
78	002-11-04	Karen Meggagini	Provision of rapid HIV testing and nevirapine administration in the labour ward improve population ART coverage of HIV-infected women and their infants (or optimising population coverage through enhancement of labour ward PMTCT)
79	001-11-04	Wally Carlo	Community-based training and intervention in neonatal resuscitation
80	009-02-05	Benjamin Chi	Field validation of thin layer chromatography to detect nevirapine in cord blood

81	002-02-05	Wally Carlo	Brain research to ameliorate impaired neurodevelopment planning grant for the developing world
82	004-07-05	Muzala Kapina	HPTN 035/Phase II/Lib safety and effectiveness study of the vaginal microbicides buffergell and 0.5% PRO 2000/5 GEL (P) for the prevention of HIV infection in women
83	REC/admin/25/05	Jeffrey Stringer	Use of a clinical care database to evaluate HIV care and treatment
84	UNZAREC/ADM/03/05B	Moses Sinkala	Center for HIV/AIDS vaccine immunology-seroincidence of HIV among women attending prenatal care in Lusaka (CHAVI)
85	005-10-03	Waza Kaunda	Randomised controlled pilot trial of Ganoderma Lucidum for the treatment of Zambian adults with AIDS
86	004-03-03	Paul Kelly	Multicentre, double-blind, placebo-controlled study of nitazoxanide tablets in the treatment of cryptosporidiosis in adults and adolescents
87	002-12-03	Michael J. Kilby	Acute infection and early research programme (AIEDRP) AIEDRP core1 database protocol (version 1.0 dated June 23, 2003)
88	003-11-03	Elizabeth Lambwe	An analysis of group facilitation on problem-based learning (PBL) nursing schools in Zambia
89	003-06-03	Mwikisa L. Likulunga	Analysis of factors affecting performance of District Health Management Teams (DHMTs)
90	006-09-03	Lilembalemba Lilembalemba	Baseline survey on nutrition, morbidity, mortality and food security in Chindia settlement
91	009-06-03	Mainza Lukobo	Acceptability of male circumcision in Zambia
92	001-11-03	Joyce B. S. Lumuchembu	The prevalence and factors associated with child sexual abuse in Livingstone
93	004-02-05	Shah Nishant	Determining antiretroviral eligibility and coordinating access to HAART IN Lusaka, Zambia
94	004-05-05	Allen Susan	Phase III randomised placebo-controlled trial of HSV-2 suppression to prevent HIV transmission among HIV-discordant couples
95	017-02-05	Banda Juster	An evaluation of men's attitude and knowledge surrounding PMTCT in Lusaka, Zambia
96	001-12-05	Amisi Willy	Evaluation of the effectiveness of the clinical HIV management training for doctors in Zambia 2005 - 2006
97	-	Aparicio Sylvia	Mycobacterial infection as a cause of intestinal disease in an African population severely affected by HIV

98	004-11-05	Birbeck Gretchen L	ART adherence among people attending rural Zambian clinics
99	009-02-05	Chi Benjamin	Field validation of thin-layer chromatography to detect nevirapine in cord blood
100	009-01-05	Chikusu Patrick	Rapid open observational study on safety and efficacy of the traditional herbal medicines mailacin, mayeyanan, Sondashi and Ngoma formulations
101	-	Chilopa Batistat	The 2005 Zambia HIV/AIDS Service Provision Survey
102	003-07-05	Chintu Chifumbe	Children with HIV in Africa - Pharmacokinetics and adherence of simple antiretroviral regimens (CHAPAS 1 Trial) - version 1.0
103	001-05-05	Chomba Chrispin	A Phase 2, randomised, placebo-controlled, double-blind trial to evaluate the safety and immunogenicity of tAAC09, an HIV vaccine containing clade C gag PR-ART DNA in an adeno-associated virus (AAV) capsid, administered twice, at two dosage levels and two dosing intervals
104	004-04-05	Cramer Rabecca	Distribution of ARVs in Zambia: An ethical investigation
105	002-07-05	Fenske Penelope	Using adherence to tuberculosis drug regimens as an index for antiretroviral treatment eligibility in Lusaka Zambia
106	005-1105	Haantobolo Godfrey	Attachment, resilience, and female AIDS orphans in Zambia
107	003-01-06	Halwindi Hikabasa	Civil control of the Military in Zambia: 1964 – 2004
108	002-04-05	Himoonga Universe	Soil transmitted helminthes (STH) in pre-school children
109	001-02-05	Ijzendoorn Marinus Van	To determine gender differences in HIV/AIDS knowledge and risky sexual behaviours among University of Zambia students, Lusaka
110	006-11-05	Kankasa Chipepo	Evaluation of the WHO HIV and infant feeding counselling cards
111	009-08-05	Lakhi Shabir	A prospective, observational, multicentre study to evaluate laboratory, clinical, immunologic and viral markers of disease progression in recently HIV-infected volunteers
112	016-02-05	Makanta Chipungu A	HIV-related stigma and discrimination experienced by people living with HIV/AIDS in Katete District
113		Makasa Emmanuel M.	Common paediatric orthopaedic conditions and their management at UTH

114	006-06-05	Makukula Abby	Impact of antiretroviral therapy on risky sexual behaviour among people living with HIV/AIDS accessing treatment from Mansa General Hospital
115	005-02-05	Mendenhall Emily	Within-couple communication variance during VCT and condom use in HIV-discordant couples in Lusaka, Zambia
116	005-06-05	Mundongo Ngambo	The determinants of the low prevalence of HIV/AIDS in North Western Province, Zambia
117	007-06-05	Musheke Maurice	Work-related stress among Choma Kara Counselling home-based care workers of AIDS patients
118		Mwale Getrude	Determinants of utilization of Voluntary Counselling and Testing services among pregnant women attending antenatal clinics at St Francis Hospital, Katete
119	002-11-05	Mwale Zebron	Timing of seeking healthcare and outcome of treatment among patients with sexually transmitted disease. A longitudinal prospective study - a case of Ndola
120	001-07-05	Mwanamakwa Samanyama	Willingness to undergo testing for HIV/AIDS among healthcare seekers attending the Mtendere Clinic in Lusaka, Zambia
121	001-07-05	Mwanamakwa Samanyama	Willingness to undergo testing for HIV/AIDS among healthcare seekers attending the Mtendere Clinic in Lusaka, Zambia
122	001-09-05	Mwanza Rosemary R.	Impact of HIV/AIDS interventions on small-scale farmers in Mkushi District, Zambia
123	011-04-05	Mweemba Oliver	Acceptability of vaginal microbicides among men living in a sugar estate in Zambia
124	008-02-05	Rosen Sydney	Impact of HIV/AIDS on the cost and productivity of labour in Zambia
125		Sakala Patrick	An assessment of men's knowledge and attitude towards the use of the vaginal microbicide by women in Lusaka, Zambia
126	012-08-05	Sandoy Ingvild F.	Are places with high risk of HIV transmission reached by HIV preventive programmes?
127	013-02-05	Tembo Stephen	Baseline Survey for Reaching HIV/AIDS-affected people with Integrated Development and Support (RAPID) project (orphans and vulnerable children and people living with HIV/AIDS
128	004-07-05	Vermund Sten H.	HIV Prevention Trials Network 035: A Phase II/IIb safety and effectiveness study of the vaginal PRO 2000/5 Gel (P) for the prevention of HIV infection

129	004-01-05	Vwalika Cheswa	An anonymous serosurvey to evaluate antibodies against vaccine vectors in previously collected serum samples in volunteers not infected with HIV
130	010-08-05	Walubita Lisulo	The predictive value of anaemia in determining mortality in patients with HIV at the University Teaching Hospital
131	001-10-05	Weiss Stephen	Reducing risks for multicultural HIV+/- women & partners - NOW 2 Study
			<b>2006</b>
132	004-01-06	Marumahoko Dorothy N.	A study of HIV-related renal insufficiency in Clinics in Lusaka
133	005-01-05	Karen Meggagini	Nutritional and adherence support for patients on ART
134	001-03-03	Benjamin Chi	Supplementation use and dietary intake patterns of pregnant and lactating Zambian women
135	007-03-06	Benjamin Chi, Namwinga Chintu	Evaluation of antenatal programs for the prevention of mother-to-child HIV transmission in Zambia
136	002-04-06	Mike saag	Effectiveness of HIV viral load monitoring on patient outcomes in resource poor settings
137	022-06-06	Elwyn Chomba	Brain research to ameliorate impaired neurodevelopment (BRAIN): home-based intervention
138	001-08-06	Doug Heimburger	Nutritional causes for early ART mortality in Zambia
139	008-08-06	Steward Reid	Establishment and evaluation of a TB/HIV co-management model in Zambia: improving case findings, TB diagnosis and co-management of TB/HIV patients in Zambia
140	003-09-06	Edmond Kabagambe	Diet, genetic polymorphisms in lipid-metabolizing enzymes and antiretroviral therapy-related dyslipidemia
141	005-12-06	William Moss	Immune reconstitution of HIV-1 infected Zambian children initiating antiretroviral therapy
142	005-01-06	Allen Susan	Phase III Randomized Placebo-Controlled Trial of HSV-2 Suppression to Prevent HIV Transmission among HIV-Discordant Couples Protocol 4.1.1 15 December, 2006
143	007-01-06	Besa Bunda	HIV/AIDS prevalence among travellers involved in trading

144	009-01-06	Banda Amos	World Vision HIV/AIDS, Food and Nutrition Operations
145	003-02-06	Jones Deborah L.	Intervention to Enhance HIV Medication Adherence in Zambia
146	08-04-06	Himoonga Mackin	Determinants of adherence to antiretroviral therapy among persons with HIV/AIDS at Chelstone Clinic
147	002-04-06	Saag Michael S.	HIV/AIDS viral load study – HAVAL
148	005-04-06	Merry Ginger	Training and evaluation of staff working with the Standard Operating Procedures for HIV counselling and Risk Reduction in Lusaka, Zambia
149	007-05-06	Mwenshi John	Exploring the gender dynamics of child labour in the face of HIV/AIDS impact and mitigation
150	008-05-06	Chitangala Frederick M.	Anti-retroviral treatment adherence: Is it predictable? A study to identify factors that may influence anti- retroviral treatment adherence
151	06-04-06	Bowa Kasonde	A study of the effects of HIV on male fertility
152	011-05-06	Manigart Olivier	A cross-sectional study to screen for and generate broadly neutralizing monoclonal antibodies from HIV infected individuals
153	014-05-06	Aspler Anne	Assessing patient costs due to tuberculosis (TB) in Lusaka
154	001-07-05	Mwananakwa Samanyama	Willingness to undergo mandatory testing for HIV/AIDS among Health Care Seekers attending the Mtendere Clinic in Lusaka, Zambia
155	002-07-05	Fenske Penelope	Attachment, Resilience, and Female AIDS Orphans In Zambia
156	003-07-05	Chintu Chifumbe C.	Children with HIV in Africa - Pharmacokinetics and Adherence of Simple Antiretroviral Regimens (CHAPAS 1 Trial) - Version 1.0
157	004-07-05	Vermund Sten H	HIV Prevention Trials Network 035: A Phase II/ib Safety and Effectiveness Study of the Vaginal Microbicides BufferGel and 0.5% PRO 2000/5 Gel (P) for the Prevention of HIV Infection in Women
158	014-06-06	Mwinga Alwyn, A.	Modeling and reinforcement to combat HIV/AIDS (MARCH) evaluation in Zambia
159	-	Mutengo Mable	Malaria and HIV co-infection: Effect of HIV infection on antimalarial treatment

160	018-06-06	Odimba B. F. K.	The compliance of surgical patients to Routine Diagnostic Counselling, Testing and Care (RDCTC) about HIV infection at the University Teaching Hospital Lusaka
161	021-06-06	Ndhlovu Daniel	Situational analysis of accessibility to HIV/AIDS counselling among pupils with hearing and visual impairments in selected schools in Zambia
162	016-06-06	Chileshe Mutale	Tuberculosis: An addition tipping stress on poor households in Southern Africa and Zambia
163	024-06-06	Ngoma Catherine Mubita	Sexual behaviour and HIV/AIDS knowledge among young women
164	007-06-06	Elema Riekje	Virological outcomes after more than 12 months of first-line antiretroviral therapy under routine programme Conditions in Nchelenge, Zambia
165	010-07-06	Menon Anitha J.	An integrated therapy to enhance the emotional and behavioural well being on HIV positive adolescents
166	011-07-06	Barnhart Elizabeth	High-Impact Awareness Raising on HIV/AIDS targeting returning Angolan Population Project Evaluation
167	001-09-06	Jumbe-Marsden Emilia,	Diagnostic criteria for Tuberculosis Meningitis in children at the University Teaching Hospital
			<b>2007</b>
168	018-02-07	Steward Reid	Healthcare workers in Lusaka district: a survey of utilization of HIV services and burnout.
169	010-02-07	Elizabeth Stringer	PMTCT effectiveness in Africa: research and linkages to care (PEARL) part 2: cord blood surveillance
170	005-02-07	Perry Killam	Zambia Electronic Perinatal Records System (ZEPRS) as a pregnancy registry for coartem
171	002-03-07	Kenneth Kapembwa	Hepatitis B and C viral co-infection in HIV infected patients enrolled in the antiretroviral treatment program at the University Teaching Hospital in Lusaka, Zambia
172	008-02-07	Groesbeck Parham	Effect of highly active antiretroviral therapy on regression of cervical intraepithelial neoplasia in HIV-infected women in Zambia
173	002-06-07	Elizabeth Stringer	PMTCT effectiveness in Africa: research and linkages to care (PEARL) part 2: community survey
174	008-07-07	Benjamin Chi	Routine use of ART to prevent mother-to-child HIV transmission in the Kafue District of Zambia

175	001-03-07	Groesbeck Parham	Assessment of post-cryotherapy wound healing in a see-and-treat program for cervical cancer prevention in HIV-infected women in a low resource setting
176	014-09-07	Steward Reid	A strategy study of immediate versus deferred initiation of ART for HIV-infected persons treated for TB with CD4 <200 cells/mm <sup>3</sup>
177	010-09-07	Benjamin Chi	Predictors of patient outcomea among adults and children enrolled into HIV care and treatment in Zambia
178	001-05-07	Benjamin Chi	IMPAACT P1060: Phase II, parallel, randomised, clinical trials comparing the responses to imitation of NNRTI-based versus PI-based ART in HIV-infected infants who have and have not previously received single dose NVP for PMTCT
179	017-09-07	Perry Killam	Evaluation of strategies to enrol treatment-eligible pregnant women onto HIV/AIDS care and ART
			<b>2008</b>
180	005-01-08	Phil Peters	Stevens-Johnson Syndrome after initiating neverapting-based HAART
181	007-07-07	Isaac Zulu	Causes of early mortality during antiretroviral therapy in Zambia

**LIST OF RESEARCH PROPOSALS REVIEWED AND APPROVED BY  
THE TROPICAL DISEASES RESEARCH CENTRE (TDRC) ETHICS  
REVIEW COMMITTEE 2001 TO 2007**

#	AUTHOR	PROPOSAL
		<b>2001</b>
1.	PI: Dr Fredrick A. D. Kaona	A study in adolescents' sexual behaviour and on contacts with sex workers in four African cities with different levels of HIV infections..
2.	PI Dr F. A. D Kaona	Repeated Behavioural Surveillance surveys for HIV/STD risk related behaviours and surveillance of Sexually Transmitted Diseases (STDs)
3.	PI: Dr Rosemary Musonda.	National Sentinel Surveillance of HIV/Syphilis in Zambia.
4.	PI: Dr Rosemary Musonda	HIV Subtyping Vaccine trial.
5.	PI: Dr Emmanuel Kafwembe	Evaluation of Efficacy and Safety of LW4 in Patients with HIV-1 infection
6.	PI: Dr F. A. D. Kaona.	Exploratory research on Compliance of Tuberculosis drug taking at the household Level, Ndola, Zambia.
7.		<b>2002</b>
8.	Dr R Musonda	HIV Vaccine Trial Site development for Zambia..
9.	PI: Dr Rosemary Musonda	To Establish the gag/env Heteroduplex Mobility assay HMA technique for monitoring HIV-1 Subtype and Intersubtype Distribution.
		<b>2003</b>
10.	PI Mr Mathias Tembo	Evaluation of the syndromic management algorythms for sexually Transnmitted Infections in Primary Health Clinics in Zambia.
11.	Dr R. Musonda	Epidemiology of Trichomonas Vaginalis: Prevalence of Trichomonas spp and Sexual and Hygiene Risk Factors associated with Genital Trichomoniasis
12.	PI Mr Mathias Tembo	Sexually Transmitted and Blood Borne infection prevalence assessment in High Risk Populations: The Second Behavioural and Biologic Surveillance Survey for HIV/STI risk related behaviors and Clinical presentation
13.	PI: Prof Barton Haynes	Studies of Viral Diversity and Neutralising Antibody Characterisation in Zambia.
14.	PI: Prof Umberto d' Alessandro	A Comparative Evaluation of the Safety and Efficacy of Artemether-Lumefantrine versus Sulfadoxine-Pyrimethamine in Both HIV Positive and Negative Adults with uncomplicated P. falciparum malaria in Zambia
15.	PI Prof Umberto D' Alessandro	Malaria and HIV, is there a link?

16.	PI Dr Thabale J. Ngulube	Caring for Health Workers: Responding to the HIV/AIDS Needs of Health Personnel in Zambia.
17.		A Comprehensive Study on the Contribution of Laboratory and Diagnostic System to DOTS Strategy in Zambia
		<b>2004</b>
18.	PI: Ms Chanda Mulenga	Sexually Transmitted and Blood Borne Infection Prevalence assessment in High-Risk Population-Ndola
19.	PI: Mr Severino Mbozi	Frequency of Sexual Partner Change and related Factors amongst Pupils at Mindolo Secondary School in Kitwe.
20.	PI Dr M.Inambao	Focus group and interviews on HIV and other infectious diseases in Kitwe and Ndola.
21.	PI: Dr M. Inambao	Couples Voluntary Counseling and Testing for HIV in Kitwe and Ndola
22.	PI: Dr M. Inambao	Phase III randomised placebo controlled Trial of HSV-2 Suppression to prevent HIV Transmission in Discordant Couples.
23.	PI: Ms Chanda Mulenga	Study on Tuberculosis Drug Resistance and Treatment Outcome in Zambia.
		<b>2005</b>
24.	PI: Dr Buleti Nsemukila	HIV and Syphilis Testing Protocol for the 2006 Zambia Demographic and Health Survey.
25.		Clinical Evaluation of TotAloe: An Immune Booster in People with HIV/AIDS in Zambia
26.	Mr J. Chileshe	Prevalence of HIV and Hepatitis B Virus Co-infection in Pregnant women and Blood Donors in Zambia.
27.	PI Ms Chanda Mulenga	Application of the BED IgG capture enzyme Immunosorbent assay to Estimate HIV Incidence in Generalised Epidemics
		<b>2006</b>
28.	PI Dr Abdul G. Elgoni	Implementation of the SADC STI Public-Private Partnership Project in Zambia.
29.	PI Mr Sanjobo Nawa.	Factors Affecting Adherence to Antiretroviral treatment in Zambia. A Qualitative study of Patients and Health care professionals in Kitwe and Mpungwe Districts.
30.	PI: Dr Victor Mwanakasale	Evaluating the Clinical Benefits of the Vitamin/Mineral Premix (FT-061347EU-IMMU-O-MIN) in the Management of HIV/AIDS Patients in Zambia.
31.	PI Dr Marc Bulterys	HIV prevalence and Incidence among Migrant and Non Migrant Farm Workers in Mazabuka, Zambia.

32.	PI Dr Liz Grant	A Study to describe cultural factors influencing access to adherence to antiretroviral treatment (ART) in an urban Zambia Community.
33.		Impact of HIV on Severe Malaria in adults in an Endemic Area: A case control Study
34.	PI: Dr Gershom Chongwe	Evaluating the use of a screening tool to Improve case detection of Tuberculosis Patients
		<b>2007</b>
35.	PI Dr Oscar Simooya	A Sero behavioural Survey of the HIV/AIDS Situation in Zambian Prisons
36.	PI Rosanna Price Nyendwa.	Cost Benefit Analysis for HIV/AIDS Workplace Programmes in Zambia.
37.	PI Dr F. A. D. Kaona	A Baseline Survey to Assess the Impact of Care-Giving by Old People in Households with PLWHIV/AIDS in Livingstone and Nakonde Districts of Zambia
38.	Dr Ann Chao	HIV Drug Resistant Threshold Survey using Specimens Collected during the Zambia 2008 HIV Sentinel Surveillance.
39.	PI: Dr Gershom Chongwe	Evaluating the use of a screening tool to Improve case detection of Tuberculosis Patients

## II. AUTHOR INDEX

### A

- Alain D ..... 21, 126  
 Albertini J ..... 121  
 Allen S ..... 54, 178, 195, 198  
 Allen W.J ..... 71  
 Amayun M B ..... 29  
 Andy B ..... 4

### B

- Banda D ..... 20  
 Banda E ..... 55, 56  
 Banda G ..... 53  
 Banda S ..... 55, 56  
 Bentwich Z ..... 174  
 Betha E ..... 173  
 Beyer A ..... 57  
 Bharath-Kumar U ..... 131  
 Bhat G J ..... 117  
 Bhatt P ..... 141  
 Biemba G ..... 97  
 Biemba K. M ..... 80  
 Bolton C ..... 77, 166  
 Bond G ..... 47  
 Bond V ..... 39, 55, 60  
 Brugha R ..... 106, 185  
 Bulawo N.D ..... 12, 32, 36  
 Bwalya A ..... 37  
 Bwalya C. M ..... 9  
 Bwalya V. C ..... 117  
 Bwembya P.A ..... 157  
 Byron E ..... 22

### C

- Campo D ..... 10  
 Chabwela P ..... 25  
 Chalwe V ..... 175  
 Chanda O ..... 89  
 Chansa D ..... 27  
 Chapoto A ..... 105, 118, 160  
 Cheelo C ..... 183  
 Chege J.N ..... 62  
 Chemonics International Inc ..... 51  
 Chi B....48, 67, 74, 84, 86, 127, 145, 157, 163, 167, 196  
 Chi B. H ..... 74  
 Chifwepa K ..... 185  
 Chikafuna J. B ..... 4  
 Chikusu P ..... 176, 196  
 Chikwampu D ..... 55  
 Chilobwa S K ..... 34  
 Chinwendu D ..... 89  
 Chirwa B.U ..... 151  
 Chirwa M ..... 61  
 Chirwa S ..... 63  
 Chishimba S ..... 8, 72, 185  
 Chisumpa V ..... 152  
 Chitalu N ..... 176  
 Chitembo L ..... 117  
 Chola D. C ..... 17  
 Chomba C ..... 74, 196  
 Chomba E ..... 121

- Chongwe G ..... 99  
 Clark L.F ..... 10  
 Colson E ..... 39

### D

- Daka H. S ..... 111  
 Dawson B ..... 135  
 DeGroot ..... 66  
 Desai K ..... 136  
 Dunham S ..... 59  
 Dunnett-Dagg W A ..... 129  
 Dzekedzeke K ..... 151

### E

- Eerens P ..... 45, 103

### F

- Falconer D. A ..... 181  
 Feeley F ..... 125, 134  
 Feeley R ..... 124  
 Fieno J ..... 76  
 Fisher J ..... 157  
 Forman L ..... 181  
 Forsythe S ..... 152  
 Fraser-Bell A ..... 178  
 Fusco H ..... 74, 163  
 Fylkenses K ..... 151

### G

- Galbraith J ..... 75  
 Gill G ..... 35  
 Gillespie S ..... 22  
 Ginwalla R ..... 55  
 Goma F ..... 74  
 Grassly N ..... 136  
 Greyling C ..... 62  
 Grove-Akpey M ..... 19

### H

- Hachonda H. M ..... 9, 29  
 Hachonda H. M ..... 29  
 Hakoma C M ..... 132  
 Halumba V M ..... 58  
 Hamazakaza P ..... 22, 125, 144  
 Hamazakaza P ..... 125, 144  
 Hamomba L ..... 52  
 Helova A ..... 64  
 Herlihy J ..... 18  
 Hill R Y ..... 77  
 Himanje I ..... 14  
 Himoonga U ..... 35, 196

### I

- Indeni HIV/AIDS Prevention and Care Project ..... 136  
 Iqbal N ..... 83

**J**

- J. H. van Dijk..... 81  
 Jayne T. S..... 105, 118  
 Jere F..... 115  
 Jesus F..... 177, 187  
 Jham M..... 90, 92, 96  
 JHPIEGO..... vii, 21, 22, 51, 126, 127

**K**

- Kaboru B.B..... 158  
 Kabwe..... 28, 33, 137, 139, 208  
 Kaetano L..... 173  
 Kafuma T..... 39  
 Kalipenta J..... 40  
 Kalwani R..... 141  
 Kamwanga J..... 134  
 Kamwengo M..... 23  
 Kankasa C..... 46, 66, 196  
 Kanyanta B. S..... 111  
 Kapungu K..... 61  
 Kapungwe A..... 25, 154  
 Kaseba C..... 6, 149, 150, 166  
 Katuta C..... 23, 37  
 Kautzman M..... 54  
 Kawilila S..... 24, 31, 114  
 Khan N..... 141  
 Kinkese D. M..... 39  
 Kiragu K..... 45, 50, 103, 142  
 Kolsky R..... 43  
 Konayuma A..... 23  
 Kraak R..... 81  
 Kuhn L..... 43, 46  
 Kumbutso D..... 170  
 Kvåle G..... 154

**L**

- Levy J..... 66, 85, 92, 149, 166  
 Lishimpi K..... 100  
 Lubasi T..... 42, 43  
 Lubbungu J..... 23  
 Lungu J..... 23, 113  
 Lungu J. N..... 113  
 Lungu R..... 138  
 Luo C..... 47

**M**

- MacLeod..... 175  
 Macwangi M..... 88, 124, 133, 134, 179  
 Makuka I..... 63  
 Makwala C..... 137  
 Malindima M..... 14  
 Malungo, J. R. S..... 173  
 Manda C.M..... 33  
 Manoff Group..... 51  
 Martines J..... 65  
 Mason E..... 65  
 Mathai R..... 75  
 McFarlane Y..... 42, 45, 108  
 Megazzini K..... 108, 145  
 Meinzen-Derr J..... 54  
 Menon..... 9, 200  
 Meyers S..... 18  
 Michelo C..... 154, 160, 161

- Mill S..... 102  
 Ming Li..... 177, 187  
 Monde I. N..... 12  
 Moonga C. N..... 132  
 Mphuka C..... 183  
 Mtetwa J..... 178  
 Muchindu W..... 67  
 Mudenda M..... 134  
 Mudenda O. S..... 32  
 Muhe L..... 65  
 Mukubesa S..... 28  
 Mukuka L..... 8  
 Mukuka I..... 73  
 Mukuka L..... 14  
 Mukuka R..... 5  
 Mulenga C..... 173  
 Mulenga D..... 47  
 Muliokela L..... 139  
 Mulundu G..... 98, 190  
 Murray L..... 62  
 Mutale B. M. M..... 15  
 Mutati C..... 83  
 Mutemba C..... 176  
 Mutombo N..... 17  
 Mutonyi S..... 138  
 Muulu E..... 104  
 Mwaanga O..... 20, 140  
 Mwale A M..... 58  
 Mwale V..... 35  
 Mwanayanda L..... 10  
 Mwangala G. S.K..... 96  
 Mwansa E..... 116  
 Mwansa K..... 140  
 Mwape K..... 59  
 Mweemba A..... 64  
 Mwinga A..... 71, 155, 199  
 Mwinga A Z..... 155  
 Mwinsa G..... 61  
 Mwiya M..... 43

**N**

- Namukwai R. S..... 20, 26  
 Ndonji K..... 172  
 Ndubani E..... 60  
 Ndubani P..... 16, 79, 124, 133, 134, 158  
 Ndyanabangi B. A..... 147, 186  
 Nelson D. B..... 155  
 Ng'uni..... 42, 45  
 Ng'uni C..... 42  
 Ngashi N..... 47  
 Ngoma..... 9, 110, 124, 196, 200  
 Ngoma K..... 110  
 Ngoma M. S..... 124  
 Ngona M..... 13  
 Ngulube T. J..... 50, 142  
 Ngwengwe..... 133  
 Njungu L H..... 139  
 Nkhoma S..... 141  
 Nkosi O..... 83  
 Nkunika M..... 40  
 Nota A..... 103  
 Nyambe J A..... 131  
 Nyumbu M..... 50, 138, 142  
 Nyundu W..... 138

**O**

Oliff M..... 106

**P**

Parham G..... 156  
 Patel D..... 129  
 Patterson D..... 181  
 Phiri B..... i, 179  
 Ponde F..... 33  
 Pupwe O..... 52

**R**

Reed K..... 11  
 Reid S..... 92, 96, 175  
 Robertson S..... 102  
 Robson S..... 111, 112  
 Rosen..... 124, 125, 144, 190, 197  
 Russell D..... 83  
 Rutenberg N..... 45, 103

**S**

Sadoki E..... 175  
 Sahasrabuddhe V..... 91, 146, 156  
 Sakala D..... 31  
 Sakala R..... 37  
 Sakuwaha A. C..... 7  
 Salazar-Gonzalez..... 177, 187  
 Sandoy I. F..... 154, 160, 161  
 Sanjobo N..... 89, 203  
 Sekgoma B..... 135  
 Sepiso S.O..... 128  
 Serlemitos E. A..... 29, 131  
 Shadrick E. N..... 123  
 Shalunga C..... 103  
 Shields J M..... 155  
 Shilika..... 9  
 Siamatowe C..... 26  
 Sibande M.N..... 33  
 Sichalwe P..... 76  
 Sichinga B..... 107  
 Sichone..... 123  
 Sichuundu W..... 37  
 Sikanyiti P..... 152  
 Sikazwe E..... 105  
 Sikwibele A. L..... 30  
 Silwamba G..... 38  
 Simbaya J..... 16  
 Simwanza A..... 151, 153  
 Simwenda M..... 38  
 Sinkala M 6, 45, 48, 66, 73, 85, 108, 127, 145, 150, 157,  
     163, 167  
 Sinyangwe F..... 137

Sinyangwe G..... 141  
 Sitali M..... 171  
 Siulapwa Y. K..... 19  
 Siwale M..... 88  
 Siyakutela G..... 140  
 Siziya S..... 19  
 Slonim-Nevo V..... 8, 14  
 Soka N..... 98  
 Sozi C..... 153  
 Spadoni S..... 63  
 Stringer E..... 6, 71, 87, 127, 150, 166, 167  
 Stringer J. S..... 71, 164  
 Stuart L..... 82  
 Sundewall J..... 183  
 Sunkutu K..... 153

**T**

Taylor A. R. T..... 182  
 Ted K..... 83  
 Tembo R..... 115, 154  
 Thibeault R..... 18  
 Thuma P..... 81  
 Trivedi M. K..... 78  
 Trivedi P..... 129

**U**

Underwood C..... 25, 154  
 United Nations High Commissioner for Refugees.... 159

**V**

Vermund S..... 156  
 Vongo R..... 106, 185  
 Vwalika B..... 101

**W**

Walter J..... 43  
 Wamulume C1..... 73  
 Wamuyi B..... 37  
 Washington S..... 47, 108

**Z**

Zachary D..... 64  
 Zanamwe L..... 185  
 Zeleke W..... 4  
 Zulu F..... 8, 72  
 Zulu I..... 49, 77, 85, 86, 146, 162, 163  
 Zulu K..... 12, 32, 36, 79, 130  
 Zulu M G..... 53  
 Zulu R..... 158  
 Zulu W..... 12, 32, 36

### III. STUDY SITE INDEX

Chelston Township Lusaka.....	115
Chililabombwe.....	66
Chingola.....	5, 53, 58, 81, 101
Chipata.....	26, 31, 36
Chipata Compound Lusaka.....	28
Choma, Mbabala Area.....	28
Choma.....	110, 141
Chongwe .....	14, 92
Copperbelt Province.....	28, 70, 110
Copperbelt University.....	66
Eastern Province.....	23, 176
George Compound Lusaka.....	57
Gwembe.....	28
Kabwe .....	21,72, 144
Kafue.....	14, 93
Kala and Mwange refugee camps.....	96, 158
Kalulushi .....	83
Kamanga Compound .....	88
Kamwala Township Lusaka.....	28, 68
Kanfinsa Prison Kitwe.....	61, 99
Kanyama Township Lusaka.....	45
Kapiri Mposhi.....	115
Kasama.....	88, 102
Katete.....	28, 114
Kitwe.....	11, 13, 21, 30, 56, 66, 83
Liteta.....	22
Livingstone.....	13, 30, 56, 66, 86
Luanshya.....	21
Luapula Province.....	28
Lufwanyama.....	66
Lundazi.....	134
Lusaka.....	6, 7, 8,13, 14,16, 19, 20, 24, 27, 30, 31, 32, 37, 38, 39, 40, 41, 42, 43, 48, 49, 51, 52, 54, 56, 62, 64, 65, 66, 68, 73, 80, 85, 88, 90, 95, 100, 106, 107, 111, 113,117, 118, 127, 128, 134, 137, 138, 139, 146, 153, 156, 158, 163,
Mansa.....	13, 30, 56
Matero Township Lusaka.....	45, 57
Mazabuka .....	5, 145
Misisi Compound, Lusaka.....	28
Mongu.....	130, 131, 134
Mtendere Township Lusaka.....	45
Mufulira.....	21, 98
National.....	9, 15, 19, 39, 46, 52, 67, 70, 76, 91, 94, 103, 113, 117, 121, 135, 136, 142, 148, 157, 161, 162
Nchelenge.....	13, 30
Ndola.....	13, 21, 30, 36, 54, 56, 59, 66, 85, 119, 134, 139, 140, 156
North-Western Province.....	25
Siavonga.....	98, 114, 145
Sinazongwe.....	14
Solwezi.....	38
Southern Province.....	29, 70, 71, 97, 109
University of Zambia.....	10, 26, 119, 129
University Teaching Hospital.....	8, 36, 61, 65
Zambezi District Chief Ndungu's Area.....	89
Zambia Prisons.....	90
Zambia rural.....	11, 120
Zambia selected rural areas.....	12, 17, 18, 33, 50
Zambia selected sites.....	82
Zamtel Lusaka .....	150

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