REPUBLIC OF ZAMBIA
Ministry of General Education

INTEGRATION OF HIV AND AIDS INTO PRE-SERVICE AND IN-SERVICE TEACHER TRAINING PROGRAMS IN ZAMBIA

FINAL REPORT

August 2014

RTS Monitoring, Evaluation & Research (MER) Series # 2

This publication was produced for review by the United States Agency for International Development. It was prepared by W. James Jacob, University of Pittsburgh; Simeon Mbewe and Harrison Daka, University of Zambia and Chitanda Rhodwell, RTS Zambia. The 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 but are those of the authors.

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Recommended Citation

Jacob, W. James, Simeon Mbewe, Harrison Daka, and Chitanda Rhodwell. 2014. *Integration of HIV and AIDS into Pre-service and In-service Teacher Training Institutions in Zambia.* Lusaka, Zambia: USAID Read to Succeed Project, University of Pittsburgh, and University of Zambia.

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CONTENTS

ABBREVIATIONS AND ACRONYMS

AIDS	–	Acquired Immunodeficiency Syndrome
AV	–	Audiovisual (equipment)
BCC	–	Behavior Change Communication
CAE/s	–	Content Area Expert/s
CLHIV	–	Children Living with HIV and AIDS
COE/s	–	College/s of education
CSO	–	Central Statistical Office
CSO	–	Community support organization
HCT	–	HIV Counseling and Testing
HDI	–	Human Development Index
HERNet	–	Higher Education Research Network
HIV	–	Human Immunodeficiency Virus
IAC	–	International Advisory Committee
IEC	–	Information, Education and Communication
IIEP	–	International Institute for Educational Planning (UNESCO)
IISE	–	Institute for International Studies in Education
IR	–	Intermediate Results
IRB	–	Institutional Review Board
MARPs	–	Most-at-risk Populations
M&E	–	Monitoring and Evaluation
MESVTEE	–	Ministry of General Education
MMD	–	Movement for Multi-Party Democracy
MOE	–	Ministry of Education
MOH	–	Ministry of Health
MSM	–	Men who have sex with men
NAC	–	National HIV/AIDS/STD/TB Council
NGO	–	Non-Governmental Organization
OVC	–	Orphaned and Other Vulnerable Children
PITs	–	Pre- and in-service Teachers
PITT	–	Pre- and in-service Teacher Training
PLHIV	–	People Living with HIV and AIDS
PMTCT	–	Prevention of Mother-to-Child Transmission
RTS	–	USAID Read to Succeed Program
SACMEQ	–	Southern and Eastern Africa Consortium for Monitoring Educational Quality
STD/s	–	Sexually Transmitted Disease/s
TTI/s	–	Teacher Training Institution/s (includes Colleges of Education and Universities involved in Teacher Training)
UNAIDS	–	Joint United Nations Programme on HIV/AIDS
UNIP	–	United National Independence Party
UNDP	–	United Nations Development Programme
UNPD	–	United Nations Population Division
UNESCO	–	United Nations Educational, Scientific and Cultural Organization
WHO	–	World Health Organization
ZDHS	–	Zambian Demographic and Health Survey

EXECUTIVE SUMMARY

This research study examined the existing nature and effectiveness of HIV instruction, relating to pre-service and in-service teachers (PITs) and teacher trainers in Zambia. It is an official study of the USAID Read to Succeed Project (RTS) in Zambia. Findings identify best practices of HIV education in teacher training institutions (TTIs)[1] in preparing teachers to integrate HIV and AIDS into pre- and in-service teacher training (PITT) programs nationwide and in what is being taught in primary and secondary education curricula. This study examined curricula materials that were taught in the 11 participating TTIs and which are part of the national curriculum teaching requirements at the primary and secondary school levels.

Research team members were interested in learning how effective instruction is at the local levels at various TTIs throughout Zambia. Guiding questions that were asked in this study include: How does an integrated curriculum approach impact the effectiveness of student teacher instruction? How does the curriculum impact students, parents, families and the communities in which they live? To date there are no national evaluation studies on this central topic. Our central research questions include:

1. To what extent is HIV instruction integrated in the curricula of TTIs?
2. How does an integrated curriculum approach impact the effectiveness of HIV instruction?
3. How do TTIs prepare teacher trainees to integrate HIV education in their instruction?
4. How effective are teachers in implementing an HIV integrated curriculum approach in real teaching settings?
5. What role does counseling about HIV and AIDS play in the early grade levels of primary education?
6. How can prepared teachers best help children in early grade levels learn better by being trained in HIV education?
7. What national or institutional curriculum policies exist to promote an integrated HIV education approach in TTIs? And, to what extent are these policies and their means of implementation effective?

Conceptualized to measure the effectiveness of an integrated HIV and AIDS education approach, this research study collected data from a representative sampling of TTIs and key stakeholders from multiple provinces within the country. Six government TTIs and five private TTIs were included in this study. The selection of TTIs was from five different provinces of Zambia. Stakeholders interviewed included those from key government policy makers of different ministries, United Nations agencies, religious leaders, community leaders and leaders from Non-Governmental Organizations. The surveys were administered to administrators, faculty members, pre-service and in-service teachers of the participating TTIs.

The findings of this research study are timely because no prior national evaluation study in Zambia exists on this topic and addresses these central research questions. This study examined existing curricula materials used in TTIs to prepare their pre-service and in-service teacher trainers to integrate HIV and AIDS education into the mainstream curriculum teaching at TTIs and at primary and secondary levels. This study focused on TTIs with the aim of understanding the competencies of PITs and pre- and in-service teacher trainers in terms of (a) what they perceive to have learned about HIV and AIDS, and (b) their ability and confidence to teach this knowledge in the many schools where they work.

There were significant differences between the four participant groups in terms of their overall knowledge about HIV and AIDS. The study revealed that the majority of participants knew that there was no cure for AIDS. Yet, many respondents (approximately 20 percent) did not understand that a person could have a negative test for HIV and still be infected. Almost all the respondents knew that abstinence was the most effective method of protection against HIV and STIs. In relation to condom use, the majority knew that condoms could not be safely used more than one time. However, many participants did not understand that condoms must be stored in a cool and dry location prior to use.

On HIV transmission, the vast majority of participants understood the primary modes of transmission of HIV. Yet there were also some areas of knowledge shortages, as many participants did feel that HIV could be transmitted through contact with some insects, toilet seats and by hugging or touching a person who has HIV or AIDS. It was good to see that almost all the respondents knew that drugs were available to help prolong the life of a person with AIDS and that there is no current cure for AIDS through medicine.

The study showed that there was greatest variance between content area experts (CAEs) and pre- and in-service teachers on the appropriate setting to teach children about HIV/AIDS. The majority of CAEs (70.3 percent) stated the home while only 38.6 percent of TTI administrators choose home. While it was proposed by many respondents that it would be good to consider a separate, required, and examinable course on HIV and AIDS in the pre-service teacher curriculum at TTIs; most indicated that the best ways to teach about these foundational HIV topics is to integrate it into the core curriculum for all pre-service teachers. Findings indicate the important role a multiple-setting approach is—by teaching children and students about HIV and AIDS in homes, schools, communities, and religious settings—when considering reaching youths throughout the country and in helping to overcome the AIDS epidemic.

The report concludes with a set of recommendations that should be considered by policy makers, government planners, TTI administrators and teacher trainers, as well as all stakeholders engaged in HIV education. Among these conclusions are five key recommendations. First, MESVTEE should establish a *National HIV and AIDS Policy Framework* document for the education sector. At the present there is no such guiding document for the education sector and it is an area that can help serve as a guide for *National HIV and AIDS Education Sector Strategic Plans*.

Second, after careful review, the MESVTEE should approve a *National HIV and AIDS Education Sector Strategic Plan.* HIV teacher training should be a central part of this national strategic plan. At the present there is a polished draft, but it should be formalized and approved so that annual action plans—with measurable inputs, activities, and outputs—can be linked to short- and long-term goals and objectives.

Third, there is a significant need to help teacher training programs be better prepared to train teachers in *how* to integrate HIV and AIDS into the formal curriculum. Teacher trainers need to be able to provide practical guidance and examples in each subject area, including to primary school teachers.

Fourth, there is a need to strengthen teacher training capacity within TTIs to deliver relevant HIV and AIDS education.

Finally, there should be incentives built into the curriculum that will better help teachers as they integrate HIV and other sexuality education topics into the curriculum, including having these integrated examples as part of examinable material on national exams.

NOTES

1. TTIs refer to both colleges of education (COEs), university colleges, and universities involved in teacher training.

INTRODUCTION

In an effort to determine what is being taught to pre-service and in-service teachers (PITs) in Zambian schools, this study examined how effective TTIs are at implementing policy directions provided by the Ministry of General Education (MESVTEE) and other government agencies involved with the national response to the AIDS epidemic. Our report is divided into four primary sections. The introduction summarizes the methodology and the study design. The next section looks at the background and overview of HIV education in Zambia. Survey results are then introduced and discussed according to the seven central research questions. In-depth interviews with content area experts (CAEs) help supplement the survey findings as well as provide vivid examples of policy suggestions. The final section summarizes the findings and provides a list of suggested best practices and recommendations for the future of HIV education as it relates to pre-service and in-service teacher training (PITT) programs in Zambia. In terms of the study methodology, this section introduces the list of participating teacher training institutions (TTIs), participant groups, instruments used, training of the research team members, and instruments used for the study.

Participating Colleges of Education and Universities

Participating TTIs were systematically selected as representatives of the existing colleges of education and universities in five of the ten provinces of Zambia. A total of 11 TTIs in Zambia participated in this study. Two primary types of TTIs exist in Zambia: (1) universities, and (2) colleges of education or university colleges. TTIs were selected via a convenience sample from a list of all Zambia TTIs compiled by the RTS – Research Support Team. TTI selection was stratified by (a) TTI category—university or other TTI, (b) geographic region, and (c) institution type—*government* and *private* (see Table 1).

Table 1. List of Sample TTIs in Zambia

Geographic Region (Province)	TTI Name	Type
Lusaka	Chalimbana University College (formerly NISTCOL)	Government
	Chreso University	Private
	DMI – St. Eugene University	Private
	University of Zambia	Government
	Zambian Open University	Private
Central	Nkrumah University College	Government
Eastern	Chipata COE	Government
Northern	Kasama COE	Government
	Northern College of Education, Kasama	Private
Western	Mongu COE	Government
	Lyambai COE	Private

Participant Groups

Participant groups were drawn from the participating TTIs and CAEs. Once TTIs were selected, contact was made initially with the senior administrators of the respective institutions to introduce and explain the nature and purpose of the study. This initial meeting generally followed with a senior administrator signing letters of support for the study and afterwards she or he provided members of our research team with lists from which we randomly select faculty members, administrators, and pre- and in-service teachers from their respective institutions. In addition, we conducted in-depth ethnographic interviews with select content area experts (CAEs)—policy makers and leaders of the community and other

organizations associated with HIV education and teacher training at TTIs (e.g., employers of teachers, teacher supervisors, leaders of faith-based organizations, HIV focal persons of NGOs, bilateral, and multilateral development agencies).[2]

Instruments

Four instruments were used in this study to survey responses from TTI administrators, teacher trainers, and pre- and in-service teachers in the 11 participating TTIs. The semi-structured questionnaires were developed by Prof. Jacob (2012) and adapted to the Zambian context to collect/gather both quantitative and qualitative data from the participants in the study. The instruments consist of items that asked participant groups specific questions unique to each group (faculty members in TTIs, TTI administrators, and PITs). The in-depth interview guide was first developed in 2002 and was used in this study (Jacob 2013). The surveys were reviewed by content area experts from TTIs (pre- and in-service teachers, faculty members, and administrators) for accuracy of the items and relevancy to the Zambian context. The instruments were pre-tested in the field at multiple locations that were not included in our sample. Following this pilot study, revisions were made as necessary to the instruments.

BACKGROUND AND OVERVIEW OF HIV EDUCATION IN ZAMBIA

HIV is an "incurable but preventable disease" (UNESCO 2002, p. 4). This prevention of HIV and mitigation of AIDS impacts is only possible when all stakeholders at all levels are involved in the national response. In the absence of a cure, education is a social vaccine for HIV/AIDS (Siatontola 2004; *UN Chronicle* Editorial 2006). This calls for collective and active participation of the principal stakeholders of education in overcoming the AIDS epidemic. Synergistic partnerships between groups of stakeholders is essential as a way of enhancing an effective fight against HIV and AIDS.

In December 2012, the earth had approximately 35.3 million people living with HIV (PLHIV) (UNAIDS 2013a). The response to the global AIDS epidemic has increased dramatically since its first recognition over 30 years ago. Expansion of coverage services for prevention of mother-to-child HIV transmission (PMTCT) and antiretroviral therapy have played a large role in decreasing the annual number of new HIV infections on a global level (UNAIDS and WHO 2009; UNAIDS 2013a). According to UNESCO (2006), 20 million people lived with HIV and AIDS in 1996; this number increased to nearly 40 million in 2006. AIDS-related deaths stood at a peak of an estimated 2.3 million in 2005, which translated to about four-to-five deaths per minute. As of 2012, the total estimated number of AIDS deaths was 1.6 million (UNAIDS 2013a).

The African continent has 54 countries inclusive of the surrounding islands Madagascar, Mauritius, and the Seychelles. It is divided into three sub-regions: Sahara, Central Africa, and Sub-Saharan Africa. Each sub-region provides a different scenario of the AIDS epidemic with the most aggressive form of the disease being concentrated in the Sub-Saharan region caused by HIV type 1 (HIV-1). Table 2 below shows the HIV prevalence in each global region.

Table 2. HIV Prevalence and Incidence by Region, 2012

Region	Total No. (% Living with HIV)		Newly Infected	Adult Prevalence Rate
Global Total	**35,300,000**	**(100.0%)**	**2,300,000**	**0.8%**
Sub-Saharan Africa	25,000,000	(71.0%)	1,600,000	4.7%
South/South-East Asia	4,000,000	(11.0%)	270,000	0.3%
Latin America	1,500,000	(4.0%)	86,000	0.4%
Eastern Europe/Central Asia	1,300,000	(4.0%)	130,000	0.7%
North America	1,300,000	(4.0%)	48,000	0.5%
Western/Central Europe	860,000	(2.0%)	29,000	0.2%
East Asia	880,000	(2.0%)	81,000	<0.1%
Middle East/North Africa	260,000	(0.7%)	32,000	0.1%
Caribbean	250,000	(0.7%)	12,000	1.0%
Oceania	51,000	(0.1%)	2,100	0.2%

Source: Adapted from UNAIDS (2013b).

The prevalence rate according to the Zambia Demographic and Health Survey (ZDHS) was at 14.3 percent in 2007 (Central Statistical Office [CSO], et al. 2009). Over a million Zambians were believed to have HIV in 2007, 980,000 adults and 120,000 children (MOH 2008). As of June 2009, almost a quarter million of these, or 70 percent of those in need, were receiving antiretroviral treatment (ART). With increasing access to ART, the number of adults dying from AIDS-related illnesses dropped from just over 66,000 in 2003 to an estimated 41,000 in 2009 (CSO 2009). Interventions to prevent the transmission of HIV from mothers to their infants have reached more than half the infected mothers. This has resulted in the number of children who become infected in this way falling from 21,000 in 1996 to 9,000 in 2009. The increased availability of ART for children has also led to a decline in AIDS-related deaths in those below the age of 14, down from a peak of almost 15,000 in 2003 to an estimated 7,200 in 2009 (CSO 2009). But children and prison inmates remain at a significant disadvantage when seeking and obtaining ART compared to the rest of the population; only an estimated 10 percent of children living with HIV (CLHIV) were able to access ART coverage in 2013 (Global Fund 2014, p. 4).

Table 3. HIV and AIDS Estimates in Zambia, 2012

Description	Estimates	[Low– High]
Number of people living with HIV	1,100,000	[1,000,000 – 1,200,000]
Adults aged 15 to 49 prevalence rate	12.7%	[11.9% – 13.7%]
Adults aged 15 and up living with HIV	950,000	[900,000 – 1,000,000]
Women aged 15 and up living with HIV	490,000	[460,000 – 530,000]
Children aged 0 to 14 living with HIV	160,000	[140,000 – 170,000]
Deaths due to AIDS	30,000	[26,000 – 36,000]
Orphans due to AIDS aged 0 to 17	670,000	[600,000 – 760,000]

Source: Adapted from UNAIDS (2013b).

HIV prevalence reached its peak in Zambia in the early 1990s (15.2 percent) and has remained on a relatively stable decline since that time. In 2013, the HIV prevalence rate stood at an estimated 12.6 percent. Prevalence rates among children aged 0-14 years was at 2.9 percent in early 2000 and has declined at a very modest rate to 2.3 percent in 2013 (Global Fund 2014, p. 6). HIV remains the single greatest social health challenge in Zambia today and a huge strain on the education sector at all levels.

Overview of HIV Education in Zambia

Against the above background, the AIDS epidemic has had a significant and lasting impact on the education sector. Available information indicates that the age group mostly affected by the AIDS epidemic in Zambia, as also in most Sub-Saharan Africa, is within the range of 15-49 years. With learners generally ranging from 7-25 years, and most educators falling in the 25-55 year range, both groups are within this most-at-risk age group. Surveillance data also indicates that 15-19 year old girls are six times more likely to be infected by HIV than their male peers (MOH 2008). When infected parents of young learners become sick and die, the education of their children is often compromised. When educators and management of the education sector are affected or infected, the delivery system and resources are adversely affected.

According to the National HIV/AIDS/STD/TB Council (NAC 2012), data shows that as far back as 2005, 60 percent of schools had teachers who had been trained in life skills education and taught it at school. Research also showed that such efforts might have contributed to the decline in the number of children newly infected from 59 percent in 2009 to 40 percent in 2011 (UNAIDS 2012). The population of those in learning institutions is very high such that if the policies are formulated to target interventions in such settings, the fight against the spread of HIV can be significant.

Despite such a high number of enrolments, there remains a high dropout rate as well in Zambia primary and secondary schools. In 2012 alone, 411,506 dropped out of school due to various reasons. Among those who dropped out, 170,941 were males and 240, 565 were females. MESVTEE enrolment data consistently shows that more females dropped out of school than males. Some of the causal factors leading to this include early marriages, pregnancies, and HIV/AIDS-related issues like orphanhood.

From the past three statistical bulletins released by the Ministry of Education, the numbers of the pregnancies have been high. Table 4 provides figures of pregnancies that occurred in schools at different levels in 2008, 2009, and 2012.

Table 4. Pregnancies in Schools, 2008, 2009, and 2012

Level	2008	2009	2012
Basic Schools	12,370	13,634	12,753
High Schools	1,566	1,863	2,096
Total	**13,936**	**15,497**	**14,849**

Sources: MOE (2009, 2010) and MESVTEE (2012).

Data in Table 4 shows that many Zambian students are engaged in sexual relationships of one nature or another, and this inevitably increases their risk for HIV infection. The assumption is that if sexually-active learners had access to prevention information, there might have been a reduction in the number of pregnancies and casual sex. Therefore the integration of HIV and AIDS into the curriculum can serve several purposes.

According to the 2007 ZDHS, 3.4 percent of those aged below 18 have experienced the death of both parents, while for a further 11.4 percent of children either the father (8.2 percent) or the mother (3.3 percent) has died. In other words, 14.8 percent of children in Zambia, or more than one in every seven, are without one or both parents. The proportion of children who have lost their father (11.6 percent) is much higher than the proportion that has lost their

mother (6.6 percent). It seems unlikely that this difference is due solely to AIDS, since AIDS-related mortality is higher among women than among men (NAC 2009).

Just think of the children who are vulnerable: children whose parents are alive but have HIV or AIDS; children in households where there is HIV, although the parents are healthy; children in a household where there are no adults; children in households where there are only elderly care-givers; children in households caring for other orphans; children in households no longer able to look to wealthier relatives for assistance in time of need; children who are exploited for their labor. "Children are a particularly vulnerable group where 9% of 10-19 year olds had reported having traded sex for food or money" (NAC 2014, p. 4).

Orphans and other vulnerable children from households affected by the AIDS epidemic frequently experience other negative consequences. Many encounter stigma, discrimination, and bullying in schools (Jacob 2009). Table 5 provides the number of orphans who were attending school in 2008, 2009, and 2012.

Table 5. Number of Orphans in Schools, 2008, 2009, and 2012

Gender	2008	2009	2012
Female	333,033	349,211	352,573
Male	339,927	361,207	345,556
Total	**672,960**	**710,418**	**698,129**

Sources: MOE (2009, 2010) and MESVTEE (2012).

Most of these orphans are as a result of AIDS-related deaths of their parents. The United Nations estimates that in 2012, there were 1.4 million orphaned children in Zambia out of a total population of over 14 million (UNICEF 2013; World Bank 2014). An estimated 670,000 of these children are believed to have lost one or both parents to AIDS (UNICEF 2013). Moreover, in addition to the orphans, there are the millions of other vulnerable children whose lives are affected in one way or another by the epidemic.

Research has shown that sex education has the potential to reduce the number of young girls and boys involving themselves in early sex acts (Kohler, Manhart, and Lafferty 2008). But sex education alone is not sufficient to reduce high-risk behavior, as other factors that include family and parental influence are often more influential (Hargreaves 2007). The 2007 ZDHS spoke of a substantial decline in the proportion of young women and young men who had sex by age 15. In 2000/2001, 18 percent of young women (aged 15 to 19) reported having sex before age 15; by 2007 this had fallen to 12 percent. During the same period the proportion of men aged 15-19 who had sex before age 15 decreased from 27 percent to 16 percent.

The Important Role of Training Teachers about HIV

History has placed a great burden on the shoulders of educators in Zambia. Michael J. Kelly (2008) highlighted that as members of the human race and as educators, every one of us here today faces a task that has ramifications for the lives and well-being of countless individuals—adults, youth, and children. Each of us bears the lives of others in our hands. Teachers and teacher trainers play a central role in the mitigation of HIV and AIDS.

When looking at the formal education sector, several questions come to mind. Does being educated make it less likely that a person will contract HIV or does it make it more likely?

Should schools teach about HIV and AIDS? Should they teach about sexual and reproductive health? Would teaching about these matters help stop HIV transmission? Would such teaching do any harm? How explicit should the teaching be? If there is to be teaching about preventing the transmission of HIV and about sexual and reproductive health, what can be done to support and empower teachers to play their part? Integration of HIV/AIDS in the curriculum is an important strategy for preparing teachers to best respond to these questions.

Education plays a crucial role in preventing HIV transmission for many reasons, including because its principal beneficiaries are young people, ranging in age from infancy to young adulthood. It is mostly the young who are in schools, colleges, and universities, and who are still developing values, attitudes, knowledge, and skills that will serve them subsequently in adult life. But if education is largely the sphere of the young, so also is HIV and AIDS. About one-third of those currently living with HIV are aged 15-24, while more than half of all new infections—about 6,300 each day—are occurring among young people (UNAIDS 2001, 2013a); every hour 50 young women are infected with HIV (UNAIDS 2013a).

The Importance of Beginning HIV Education at the Primary Level

All levels of education have the potential to reduce the risk of exposure to HIV. Research shows that participating in primary and secondary schooling is a critical factor in protecting young people, and especially girls, from HIV infection (UNESCO 2002). Life skills education programs that include specific skills to reduce risk to HIV (such as how to use a condom or how to refuse unwanted sex) and skills that reduce some of the underlying structural drivers of HIV (such as gender inequality or poverty) can address the socio-cultural dynamics that create situations where young people become vulnerable to infection.

Numerous research studies also show that sex education and HIV education delivered through curriculum-based programs can be effective in improving young people's knowledge, skills and behavioral intentions (Jacob et al. 2007; Yankah and Aggleton 2008). These programs can also delay the initiation of sex, decrease the number of sexual partners and promote condom use among the sexually active. Primary schools reach young people before they become sexually active and form fixed attitudes and thus provide an ideal opportunity for influencing learners' future behavior.

Undoubtedly, much energy has been spent on the curriculum and the integration of content relevant to the AIDS epidemic. But to what extent has this been little more than curriculum tinkering, the consideration of an almost infinite variety of models, but no real fundamental examination of the kind of education needed in a world with AIDS? Somehow, the thrust seems to have been almost exclusively on integrating HIV into the curriculum, dealing with sexual and reproductive health, and promoting life skills.

There has been less concern, however, with the whole purpose and rationale of a school curriculum and what the schools (and other channels for the provision of education) should be trying to achieve in the face of the AIDS epidemic. Kelly (2008) added that education can generate hope because of its potential to work at the three levels where AIDS-related interventions are needed most: (1) while there is as yet no infection, (2) when infection has occurred, and (3) when AIDS has brought death. Each of these situations are realities for many thousands of learners in Zambian primary schools.

Some young people are not yet sexually active. They need support and skills to postpone having sex until they are prepared. Some suffer from sexual abuse and they need protection and care, particularly at this critical time period when there is a threat of death from AIDS. Some start sex before marriage and change sexual partners several times before they marry. They need help to either abstain from sex or use condoms to prevent pregnancy and STIs. Life skills programs are among the information, education, and communication (IEC) skills that young people need to deal with these issues.

FINDINGS

This section provides general findings about participants' general background experience related to teacher education, knowledge, attitudes, training received on HIV and AIDS topics, and a summary of responses from selected open-ended questions asked of CAEs.

Participants in the questionnaires included pre-service students (*N*=72, 85.7 percent response rate), in-service teachers (*N*=32, 74.4 percent response rate), teacher trainers (*N*=15, 68.2 percent response rate), and TTI administrators (*N*=47, 85.5 percent response rate) randomly selected from the master enrollment and teacher and administrator roster lists at the sample TTIs (see Table 6).[3] Desiring to compare gender differences among teacher participants, we stratified our PITs selection by gender. Additionally, we conducted a series of in-depth, semi-structured oral interviews with CAEs (*N*=37) from government line ministries (including the MESVTEE, NAC, and MOH), HIV education experts, faith-based organizations, nongovernmental organizations, and development partners.

Table 6. Demographic Characteristics of Survey Participants

	PITs		Teacher Trainers		TTI Administrators	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
Gender						
Female	58	55.8	3	20.0	7	14.9
Male	46	44.2	12	80.0	40	85.1
Teaching Experience (in years)						
None	72	69.2	0	0.0	0	0.0
1-3	2	1.9	5	33.3	25	53.2
4-6	11	10.6	3	20.0	13	27.6
7-9	7	6.7	0	0.0	3	6.4
10-12	5	4.8	4	26.7	3	6.4
13-15	1	1.0	1	6.7	3	6.4
16 or more	4	3.9	2	13.3	0	0.0
Did not respond	2	1.9	0	0.0	0	0.0
HIV/AIDS Training						
Yes	38	36.5	10	66.7	24	51.0
No	64	61.5	5	33.3	21	44.7
Did not respond	2	1.9	0	0.0	2	4.3
TTI Governance						
Government	70	67.3	10	66.7	24	51.1
Private	34	32.7	5	33.3	23	48.9

1. To what extent is HIV instruction integrated in the curricula of TTIs?

HIV instruction varied depending on the teacher training institution. Several participating TTIs required at least some sort of HIV instruction, but the quality and quantity of the training varied substantially and there was no set requirement as to what should be taught to pre-service and in-service teachers nationwide. CAE respondents indicated that the following topics are being taught within the formal curriculum:

- Knowledge-based information, basic information, factual aspects regarding cause, transmission, prevention, treatment, and care.
- Understanding your body, safe sex practices, positive living (diet, hygiene, relationships, choices), psychological aspects, and life skills.

- Biological transitioning and establishing meaningful and positive relationships is essential for HIV prevention as well as treatment, care, and support of PLHIV.

While life skills are advocated in the national curriculum, teaching strategies and teacher qualifications regarding HIV and AIDS varied substantially within the sample TTIs. Based on the qualitative findings from our study, it was very clear that there was no uniformity on exactly what is being taught in the formal curriculum about HIV and AIDS.

In addition, the CAE interview findings show that in some TTIs, several aspects about HIV have not been included in the teacher training curriculum creating an educational gap for teachers graduating from such TTIs, such that they will not be prepared to teach HIV and AIDS issues as they will not have sufficiently learned the content.

Experience of the Participants

All 72 pre-service teachers and two in-service teachers had no experience at the time of our study. In-service teachers had an average of 7-9 years' experience, with roughly 70 percent having between 4-12 years' experience. This is compared to an average of 7-9 years for teacher trainers and 4-6 years' experience as an administrator for TTI administrators.

Most study participants had participated in some sort of HIV and AIDS training (in-service teachers, 56.3 percent; teacher trainers, 66.7 percent; and administrators, 51.1 percent). Pre-service teachers, however, were a very difference scenario. Less than one-third (27.8 percent) of all pre-service teachers had participated in any type of HIV and AIDS training. Of the 20 pre-service teachers who had some HIV training, most had no more than 1-3 days of training. One pre-service teacher respondent had more collective experience (nearly 1.5 years) than all of his counterparts combined. This highlights the variance in the length and depth of HIV training that exists at the pre-service level among study participants. Similarly, roughly two-thirds of in-service teacher participants had less than 10 hours of collective HIV training experience in their teaching careers.

HIV Knowledge of Study Participants

Composed of 58 questions, the Knowledge Index assessed the following constructs from pre-service and in-service teachers (PITs), teacher trainers, and TTI administrators: General HIV and AIDS Knowledge, Prevention Strategy Beliefs, Modes of Transmission, and Treatment (see Table 7). Combined scores of the Knowledge Index scores varied between participant groups in the study sample ($X^2 = 11.38$ $p < .1$), indicating the differences that existed between those in TTIs and the participating PITs.[4]

HIV and AIDS Knowledge

While 94.6 percent of all participants knew that there was no cure for AIDS, many participants also reported that it was not considered discrimination to keep an HIV-positive student from attending school (pre-service teachers, 12.5 percent; in-service teachers, 6.3; teacher trainers, 6.7 percent; and TTI administrators, 17.0 percent). The majority of participants understood that it is impossible to identify HIV infected persons if they appear thin and sickly (88.6 percent) or determining a person's HIV status by the way the individual looked (94.6 percent). Roughly one-fight of respondents did not understand that a person

could have a negative test for HIV and still be infected. Just over 80 percent of all respondents agreed that men and women view sexual intercourse differently.

Table 7. Scores on HIV/AIDS Knowledge Index

	Pre-service Teachers (%)			In-service Teachers (%)			Teacher Trainers (%)			TTI Administrators (%)		
	N	High	X^2	N	High	X^2	N	High	X^2	N	High	X^2
Gender												
Female	38	5.26	6.81*	20	20.00	3.54	3	33.33	1.41	7	42.86	3.66
Male	34	26.47		12	50.00		12	8.33		40	20.00	
Group Total	72	15.28		32	31.25		15	13.33		47	23.40	
Age												
Below 20	1	0.00	1.77	0	0.00	17.26*	0	0.00	4.75	0	0.00	13.40
20-24	41	14.63		0	0.00		0	0.00		0	0.00	
25-29	23	17.39		8	12.50		1	0.00		2	0.00	
30-39	6	16.67		14	28.57		4	25.00		3	0.00	
40-49	0	0.00		7	42.86		6	16.67		10	30.00	
50-59	0	0.00		2	50.00		2	0.00		20	35.00	
60 or over	0	0.00		0	0.00		2	0.00		11	9.09	
Did not respond	1	0.00		1	100.00		0	0.00		1	0.00	
HIV/AIDS Training												
Yes	20	10.00	4.01	18	33.33	.15	10	20.00	1.16	24	41.67	14.89**
No	50	18.00		14	28.57		5	0.00		21	4.76	
Did not respond	2	0.00		0	0.00		0	0.00		2	0.00	
TTI Governance												
Government	48	18.75	1.43	22	27.27	.66	10	20.00	1.16	24	29.17	7.01*
Private	24	8.33		10	40.00		5	0.00		23	17.39	

*p< .05; **p< .01

Prevention Strategy Beliefs:

Almost all the respondents knew that abstinence was the most effective method of protection against HIV and STIs. A majority also demonstrated high levels of knowledge about the protection condoms can provide if used properly and during each sexual encounter (pre-service teachers, 95.8 percent; in-service teachers, 90.6 percent; teacher trainers, 86.7 percent; and TTI administrators, 89.4 percent). A strong majority also knew that condoms could not be safely used more than one time. However, roughly half of TTI administrators and pre-service teachers and 40.0 percent of teacher trainers and 34.4 percent of in-service teachers felt that it did not matter if condoms were stored in a warm, moist place before use. Only 57.4 percent of TTI administrators and 46.7 percent of teacher trainers realized that lubricated condoms tend to break less often during sexual intercourse than do condoms that are not lubricated. Just under one-third of pre-service teachers and 18.8 percent of in-service teachers were unaware that Vaseline should not be used as a lubricant with condoms.

Modes of Transmission:

Over 80.0 percent of all respondents correctly identified all three major modes of HIV transmission.[5] Approximately two-thirds of all participants were unsure if it is safe to have sex without a condom if one's partner does not have HIV. Roughly one-third of all respondents believed that HIV could be transmitted by some types of insects. Over 89 percent of the sample understood that one could not get HIV from hugging or touching a person who has HIV or AIDS, drinking from the same glass that a person with AIDS has used, eating

food prepared by someone who has HIV or AIDS, or wearing clothes that have been worn by another person with HIV. Yet 12.5 percent of pre-service teachers, 18.8 percent of in-service teachers, 26.7 percent of teacher trainers, and 27.7 percent of TTI administrators did not know whether you could get HIV from toilet seats.

Treatment:

Almost all the respondents knew that drugs were available to help prolong the life of a person with AIDS (pre-service teachers, 94.4 percent; in-service teachers, 90.6 percent; teacher trainers, 100.0 percent; and TTI administrators, 97.9 percent) and that there is no cure for AIDS through medicine (pre-service teachers, 72.2 percent; in-service teachers, 84.4 percent; teacher trainers, 93.3 percent; and TTI administrators, 76.6 percent). Perhaps most striking was that approximately 91.0 percent of all participant groups believed that a person who is sweating and vomiting and has diarrhea needs extra food. The majority of all respondents (over 86 percent) understood that being compassionate toward a person with AIDS is not dangerous.

2. How does an integrated curriculum approach impact the effectiveness of HIV instruction?

There were mixed responses to this research question. Many CAEs felt that an integrated curriculum approach is essential to help prepare teachers at all levels, including at the early-grade levels in primary schools. Here are some responses that reflected many of the collective thoughts of CAEs on this question:

- An integrated curriculum approach is essential, because HIV is a cross-cutting theme that cuts across a number of subject areas. Even in such areas as mathematics, there is a need for HIV because teachers can use HIV statistics to help teach math.
- HIV should be integrated into every subject.
- It would be best if HIV and AIDS could be taught as a stand-alone subject, but if not, then HIV and AIDS should at least be integrated into the primary core subjects.

CAE responses varied substantially on the difference between what is currently being taught and what should be taught in the formal curriculum about HIV and AIDS. Some CAEs were very familiar with what is being taught and others simply did not know. For those who responded, they indicated that the following topics are being taught within the formal curriculum:

- Knowledge-based information, basic information, factual aspects regarding cause, transmission, prevention, treatment, and care.
- Understanding your body, safe sex practices, positive living (diet, hygiene, relationships, and choices), psychological aspects, and life skills.
- Biological transitioning and establishing meaningful and positive relationships is essential for HIV prevention as well as treatment, care, and support of PLHIV.

While life skills are advocated in the national curriculum, teaching strategies and teacher qualifications regarding HIV and AIDS vary substantially within the sample TTIs. It is clear from the above responses that there is no uniformity on exactly what is taught in the formal curriculum about HIV and AIDS. In addition, the CAE interview findings show that in some

TTIs, several aspects about HIV have not been included in the curriculum creating an educational gap for teachers graduating from such TTIs.

What Should be Taught?

The following themes emerged from CAE responses on what should be taught in the formal curriculum.

- What is it and how does it impact the education sector and the local and national economy?
- Modes of transmission and prevention strategies.
- HIV advocacy at all levels, including administrators, teachers, and students sharing messages with local communities throughout the country.
- Information on the nature of the disease, its short- and long-term effects, sexuality and safe sex practices.
- Cultural context, including how to deal with local taboos and traditional practices (e.g., use of razor blades and/or knives, etc.).
- Bodily fluids whereby HIV is transmitted.
- Emphasis on abstinence, being faithful to one's partner following marriage, and if people are unable to follow these two, use a condom every time they engage in sex.
- In agreement with the Cape Town Conference which was held in December 2013, where government ministers of education indicated that there was need for age appropriate materials to be taught from pre-grade or Grade 1 upwards. The content should include comprehensive sexuality education, life skills to deal with sexuality, and relationships. As indicated in the UNESCO (2013) report on education in the twenty-first century, HIV education should include the four areas of knowledge, life skills, how to preserve oneself, and learning to live together.
- Other topics should include self-awareness, circumcision, unsafe sex, sexual harassment, interpersonal communications, adherence, and assertiveness.
- HIV education should be very well rounded and not limited HIV and AIDS alone, but also include diet needs, use of appropriate medicines and drugs, gender equality, and support areas such as protective devices and interaction with health personnel. In this respect MESVTEE should work closely with the Ministry of Health. This is because teachers deal with children living with HIV (CLHIV) on a daily basis in their classrooms, and health workers deal with PLHIV in the community at large.
- Teach appropriate BCC, including sound religious values, morals, and principles, and encourage children and parents to interact with each other, especially teaching parents to find time to be with and talk to their children about sexuality and HIV.

These responses from several participants demonstrated that there were many gaps in what is supposed to be taught to PITs in TTIs. These findings therefore show that there is a need for a comprehensive HIV integrated curriculum that goes beyond theory toward one that is implemented as part of all teacher training programs for PITs. In order to accomplish this it will be important to continue to receive government support from the MESVTEE at the national, provincial, and district levels as well as from key stakeholders at all levels of the teacher training process.

3. How do TTIs prepare teacher trainees to integrate HIV education in their instruction?

We wanted to better understand from participants where they felt the most appropriate location for students to learn about STIs (including HIV), and we had mixed results. Of all 203 respondents, 46.8% felt the school is the most appropriate location, with the home coming in a close second at 43.8% of all responses (see Table 8).

Table 8. Most Appropriate Location for Students to Learn about STIs (including HIV)

Participant Group Name	N	Home	%	School	%	Religious Setting	%	Other	%
TTI Administrators	47	17	36.2	26	55.3	3	6.4	1	2.1
Teacher Trainers	15	7	46.7	7	46.7	0	0.0	1	6.7
Pre-Service Teachers	72*	25	34.7	38	52.8	0	0.0	4	5.6
In-Service Teachers	32†	14	43.8	11	34.4	1	3.1	4	12.5
Content Area Experts	37§	26	70.3	13	35.1	4	10.8	4	10.8

* Five pre-service teachers choose not respond to this question.
† Two in-service teachers choose not to respond to this question.
§ Four CAEs listed more than one most appropriate location in their responses.

Participating teacher training institutions help prepare (or not prepare) teachers to integrate HIV education in multiple ways, including:

- On one end of the preparation spectrum, there was little or no HIV training whatsoever.
- Provide some HIV training but through an outsourced agency (e.g., through an NGO, CSO, or through an international-funded project).
- HIV training that is part of an orientation of all new student teachers.
- Designated in-service HIV teacher training program (usually short-term, such as one-five days).
- Integration of HIV into various areas of the teacher training program, including in core subject areas.
- Through designated (albeit not required) courses such as those titled “HIV and AIDS Education”.

Very few participating TTIs had HIV education and counselling certification opportunities, except for G&C teachers who were being trained for that specific purpose.

4. How effective are teachers in implementing an HIV integrated curriculum approach in real teaching settings?

Because there was such variance in what was being taught about HIV education at the participating teacher training institutions, it was difficult to fully answer this question. Some general findings include:

- Most HIV education courses offered at the participating TTIs were electives and not required for pre-service and/or in-service teachers.
- For pre-service and in-service teachers who elected to enroll and take HIV education courses offered as part of their teaching degree/ certificate programs, they were able

to receive quality instruction and examples on how to integrate HIV into their respective discipline areas.

- Teacher trainers are limited in what they can require to be taught on HIV in their respective subject areas, especially if the topics are not on the formal, examinable part of the curriculum.
- Teachers in Zambian primary schools are often limited in what HIV instruction they can offer, largely because of a lack of sufficient text book examples. More should be done to help provide integrated examples of HIV in core (if not all) subject areas.

5. What role does counseling about HIV and AIDS play in the early grade levels of primary education?

Most respondents felt that primary schools should employ and train Guidance and Counselling (G&C) Teachers. Most administrator (55.3%), teacher trainer (60.0%), pre-service teacher (73.6%), and in-service teacher (87.5%) respondents felt that teachers should have a certificate in HIV prevention and counseling to help their students better understand about HIV and to help them make good decisions related to the disease. But responses on ***how*** to certify teachers varied substantially by respondent groups, and included anything from a one-day or perhaps a one-week training program to one that is more comprehensive and is a stand-alone and required course-based (examinable) program of pre- and in-service teacher training programs.

Counseling plays a crucial role in the instruction of learners at all levels, including in the early-grade levels. The majority of CAE respondents felt that learners needed to be taught and counseled about HIV and AIDS as early as possible, and most definitely not to wait until when they reach puberty. Many CAEs cautioned that the HIV and sexuality instruction should be age-specific, but that HIV education should begin as early as Grades 1-4.

The knowledge students acquire must be gradual but incremental. Some suggested in terms of grades as starting from pre-school to Grade 3. Others added that children could be taught different messages starting from Grade 1 to Grade 7. One participant emphasized this point stating, "Right from the time they enter school, for students, whatever grade you are starting even Grade 1. Like I said earlier, it just has to be age appropriate, even Grade 1 students should be taught some information. And, then students continue to Grade 1 and build on from there. So as early as they start school they need the information about HIV prevention" (CAE007).

A few CAEs cited several reasons for starting as early as possible. Some said that the early ages were appropriate as the students were still developing and emphasized that it should become like a religion right from the early years of development. Others stated that at age 5, children are able to reason. Many suggested that certainly instruction should begin no later than ages 7 or 8. If instruction begins at ages 9, 10, or when many students engage in their sexual debut, it is often too late.

Others suggested age-appropriate information teaching. Some suggested that children could be taught sexually transmitted infections from age 7 onwards, and about HIV as early as age 5. Some suggested that children could be taught according to age, depending on the degree of information starting with the basics. Some said that at age 10 or even 7, students could be taught basic information about HIV, from 10-11 years about modes of transmission and

prevention strategies, and adolescents and young adults about how to deal with relationships as well as issues of AIDS stigma, discrimination, treatment, care, and support.

6. How can prepared teachers best help children in early grade levels learn better by being trained in HIV education?

What does it mean to be "a prepared teacher" when it comes to an ability to provide guidance, counselling, treatment, and support to those effected and affected by HIV?

- Regardless of what grade level they teach at, prepared teachers are those who have at least a basic knowledge and counselling skills; trained teachers are best able to meet the many differing needs of students and staff members in Zambian primary schools.
- The participating groups who performed highest on HIV knowledge were in-service teachers (where 31.3% received a high score), administrators (23.4%), pre-service teachers (15.3%), and teacher trainers (13.3%).
- Among pre-service teacher participants, there was a significant difference between male and female respondents, with males tending to have a higher HIV knowledge score than females.
- HIV and AIDS training proved significant for administrators, but not for other participant groups.

In response to what CAEs suggest teachers should know about HIV and AIDS, most of the respondents said that teachers needed to know as much as possible. This knowledge includes basic information on what it is, how it is transmitted (various and potential modes of transmission), its effect, prevention, treatment, care, and the epidemics' impact on the economy and its workers.

Most respondents said that teachers needed to know about care, support, and how to avoid bullying and stigmatization. In addition, the majority of respondents indicated that teachers needed to know how to share their knowledge with students, parents of students, and the communities in which they live. Most respondents said that teachers needed knowledge about dealing with issues of saying "no," walking away, that one can't always tell who is HIV positive just by their appearance, treatment techniques and strategies that require basic literacy skills, and that PLHIV can live for many years with increased access and adherence to taking ARVs. Others said that teachers and Ministry of Health personnel needed to complement each other so that both should include knowledge about social systems, ART, and ARVs. Some also said that teachers should know about STIs and how to manage them.

Most respondents said that teachers must have a broad role in educating children in Zambia. Rather than having a single health prevention focus, many CAE respondents felt teachers should know and be prepared to teach about sexuality education in general and not only HIV and AIDS. Most added that PITs need to remain current in their IEC and BCC strategies, including their psycho-social knowledge of how best to co-exist with PLHIV and CLHIV. While responses varied on a single most appropriate HIV prevention strategy, most agreed that teachers should generally show the merit of remaining abstinent before marriage and being faithful in their relationships following marriage.

Teachers need to be aware of how to identify and work with CLHIV in school settings so as to ensure that they help provide a positive and safe learning environment for all children. This includes ensuring that there is no bullying, stigma, discrimination of any kind. It also means

that teachers should learn about and help produce classrooms that are free of *microaggression* and *macroaggression discriminations* (Nsubuga and Jacob 2006b). This one of the most important findings that came out of our in-depth oral interviews with CAEs, to help train teachers to befriend, support, and defend CLHIV in all school settings. Zambian schools should be what UNESCO (2011, 2014) advocates as part of its global safe schools program. Schools are also an ideal platform to help train students on how to avoid AIDS stigma of all kinds and in all ways.

Therefore it was clear from the research findings that teachers need a wide knowledge and sufficient life skills to equip them so that they are able to teach learners from different backgrounds and situations, including CLHIV. Short HIV training seminars which teachers attend sporadically here and there are generally not enough to impact them with the necessary and comprehensive skills and knowledge.

7. What national or institutional curriculum policies exist to promote an integrated HIV education approach in TTIs?

Historical Overview of HIV-Related Policies

Since 1983 when the first HIV/AIDS case was recorded in Zambia, a number of strategies both for prevention of the spread of HIV and the mitigation of AIDS impact have been put into place by various stakeholders. At the initial stage, the health sector led the campaign against HIV and AIDS because the epidemic was confined primarily within health-related sphere. In the recent past, however, people worldwide have realized that HIV and AIDS is a multisectoral issue, and other social sectors including education have played central roles to provide meaningful prevention, treatment, care and support programs (Nsubuga and Jacob 2006a).

Among the notable strategies for prevention of the spread of HIV through the education sector include the establishment of Anti-AIDS clubs in late 1980s for the purpose of sensitisation, inclusion of HIV and AIDS on the school timetable as a way of creating an awareness amongst pupils and teachers, encouraging pupils to go for VCT, and the use of condoms just to mention a few.

In late 1990s, HIV and AIDS became a separate but integral component of Basic Education Sub-Sector Investment Programme (BESSIP). There was an increased resource allocation and program intervention for HIV/AIDS.

In the same period, the MOE (1996) formulated an education policy known as *Educating Our Future*, which made reference to the importance of education for combating the AIDS epidemic. The policy highlights how HIV prevention is to be integrated into school programs which include psychosocial life skills. Despite these efforts in the formal policy, many teachers repeatedly show in practice and public fora that they are poorly informed and insecure in their understanding of HIV and AIDS. A reason for this lack of IEC and confidence may stem from their lack of formal training as part of their teacher certification process at TTIs.

In addition, at the turn of the millennium in the early 2000s, the first *National HIV/AIDS Education Strategic Plan, 2001-2005* was introduced by the MOE. This strategic plan emphasized renewing strategies and efforts toward the mitigation of the disease. This was evident from the Foreword by the MOE Permanent Secretary who highlighted that "it is therefore imperative that we all demonstrate renewed awareness and commitment as educators, parents and leaders to fight the HIV/AIDS scourge in the education sector" (p. 1).

In 2003, the MOE developed an *Interactive Methodologies Manual for HIV/AIDS Prevention in Zambian Schools* to support teaching efforts nationwide. The questions have been unanswered as to whether TTIs have included this into their curricula and also whether it is implemented in schools.

Activities of the education sector focused on improving knowledge about HIV and AIDS among students and educators, and reducing their risks associated with the disease. In 2004, the *National HIV/AIDS Workplace Policy for the Education Sector* was developed (MOE 2005). The introduction of a workplace program in 2005 involved the provision of anti-retroviral (ARV) drugs for teachers. This program did not directly benefit learners in schools per se as it focused on helping teachers to gain greater access ARVs and reduce stigma and discrimination among teachers. In this policy, teachers were not guided to teach about HIV and AIDS in schools.

Finally, while not specific to the education sector, the Ministry of Health and NAC established the *National HIV/AIDS/STI/TB Policy* in 2005, which provides a multisectoral foundation that other sectors can build upon. In providing guidance to the education sector, the document advocates that the MESVTEE should "[e]nsure that HIV/AIDS/STI/TB education and life-saving skills are integrated in school curricula and are regularly reviewed" (p. 27) and "[i]ntegrate HIV/AIDS awareness in pre-service and in-service training programmes" (p. 40). Yet, this policy has not necessarily been implemented in terms of requiring that instruction be included in all PITT programs. But the necessary policy foundation has been laid to pave the way for other education sector specific policies to build upon.

The second *National HIV/AIDS Education Strategic Plan, 2006-2007* was drafted but never launched by MOE (see MOE 2006). The current education sector Strategic Plan was drafted in 2012 and covers a five-year period from 2013-2017 but has not yet been approved (MESVTEE 2013).

Analysis of Government Policies on HIV Education

CAE responses to this topic were insightful in that they provide more background and understanding pertaining to existing policies and practices related to HIV education. Most participants said that government policies regarding HIV education existed in Zambia and that they were well framed but they were not implemented effectively.

Existing Policies:

The participants cited the following as existing government policy documents on HIV education in Zambia:

- *Educating Our Future: National Policy on Education* (1996)
- *National HIV/AIDS Education Strategic Plan, 2013-2017* – Draft
- *National HIV/AIDS Workplace Policy for the Education Sector* (2005)
- HIV/AIDS Guidelines
- Institutional/Organizational Policies Emanating from the NSF

Several participants observed that the above-mentioned policies were committed to providing HIV education to all learners in schools by institutionalizing learning. They also mentioned that in the efforts to realize the objectives of the cited policy documents, the government partnered with UNESCO to provide age-appropriate information to empower the citizens with knowledge and life skills, counseling, and the provision of services (CAE011).

Practice of HIV Education:

Most participants said that the policies were broadly satisfactory but needed to be more explicit and implemented more effectively. They agreed that HIV education should be given in gatherings, meetings, and any other places where a large number of people come together for a common goal. However, they expressed concern that the affected people have opted to absent themselves from such gatherings or meetings (CAE013). The intentions of the policies were right and therefore as a follow up, a Cape Town Conference of 2013 made more commitments to the existing policies. The conference emphasized on comprehensive sexuality education that was lacking in the existing policies (CAE011).

Many CAE interviewees observed that most leaders in organizations/groups/institutions were not trained in HIV-related issues. Therefore they expressed that there was a need to train leaders in specific education settings (CAE019). They proposed that an emphasis of the MESVTEE should be on how to pedagogically use HIV information into the actual teaching of students in the classroom. Several references were made to UNESCO's (2007) HIV/AIDS modules, which have been developed to help teachers include HIV issues in their curriculum.

Most participants noted that there were several gaps in the existing policies related to HIV and AIDS. As a result they reported that several organizations and institutions were involved in the design of institutional or organizational specific HIV policies. For example the Ministry of Agriculture and Livestock, with its ten departments, had requested each department design its own specific HIV policies (CAE026).

Some participants indicated that HIV education practices in Zambia were more focused on awareness than morality and religious-based teachings on sexuality education. For example several participants condemned the use and distribution of condoms to unmarried students. The rationale for this arguments was that the promotion and distribution of condoms to students seemed to compromise the teaching on abstinence (CAE013). Another area of dissatisfaction among several participants was concerning the policy on the teaching about male circumcision. While these participants recognized that circumcision reduces HIV transmission, it is not a 100 percent protection against the disease. Most participants advocated for HIV policies that would emphasize comprehensive sexuality education. Other

prevention suggestions included the provision of sports activities, and behavior change communication (BCC) strategies to students, teachers and administrators via multiple media. (CAE037, CAE013).

On the issue of teaching about testing, most participants said that the policy hinged on voluntary action by citizens. They suggested that testing for HIV/AIDS should be compulsory at all clinics as it was with other diseases such as high blood pressure where no permission was sought from the patient (CAE031).

Most participants said that a system of information dissemination existed but the government could do more to support the implementation nationwide. Most of the participants mentioned that HIV clubs/organizations existed in the country and messages about HIV were disseminated on radio, TV, and print media. However, the government did not make drugs available everywhere and did not allocate adequate budget to the ministry of health. A few participants expressed that radio messages were not as good as physical visits; and that there was much dependence on the donor funds through projects that had a limited life span (CAE010).

At primary school HIV education policy was implemented starting from Grade 1. However, many participants mentioned that the primary school lacked the appropriately trained teachers for the subject. In addition, most of the participants indicated that the policies did not cover the provision of HIV/AIDS education to pre-grade learners. Notably the policies were silent on issues of disclosure of status to pre-graders who may have been infected through mother to child transmission (CAE026).

Over all participants indicated that the policies on HIV education were successful to a reasonable extent. The participants cited that the working data showed a reduction in the number of infected people and an increase in the knowledge levels among many people (over 90 percent of the population).Some of the participants also recommended that MESVTEE ensure that policies be gender sensitive and unbiased.

Most participants said that HIV policies should include and support traditional beliefs, culture and values. One participant further gave this recommendation the future policies map out a strategy whereby the policies are focused on the vulnerable, sick and dying instead of enriching those involved in awareness and dissemination of information and resources, worse still conducting their meetings in luxurious and expensive hotels instead of getting to the places where the need are to see and hear their challenges. (CAE035)

Another participant highlighted what the future HIV policy should contain saying, “Our proposals for policy will be can we make sure that comprehensive sexuality education is supported and that [it] is aggressively embraced and also that sports facilities, recreational facilities, educational facilities, [and] libraries are provided to our young people to help occupy them. They need to understand that there is more to life than just sexual activity” (CAE040).

These qualitative findings show that many participants are aware that the government has some HIV education policies established. But they also highlight the need to have these policies better understood and implemented. Another challenge that most participants stated was failure is the implementation of the existing policies. One participant noted saying, “the problem we have is in the implementation of those policies and also if we have it in the

policy, what about the budget is it being plan for? In order to implement that, so that is where the gap exists" (CAE007). Some participants also noted that Implementation strategies it has been too much on urban settings than rural areas, it has been too much of using volunteers.

CONCLUSION AND RECOMMENDATIONS

In the conclusion section, we include several recommendations and suggestions derived from the study that were based on both quantitative and qualitative findings. The education sector has been identified as a key sector in the national response, especially in terms of HIV prevention and AIDS impact mitigation (Nsubuga and Jacob 2006a). Education, both in the formal and informal sense, cannot be an effective instrument against HIV and AIDS if the key education stakeholders work in isolation and at times advancing conflicting values and agendas. For example, while teachers may encourage the use of condoms as one preventive measure for HIV and AIDS, the church and the traditional leadership may be against such a measure. Similarly, the preferred abstinence first prevention focus so often advocated by faith-based organizations should similarly be supported by educators at all levels, so long as other prevention strategies are also stressed. This provides a justification for striving for synergy in partnerships between traditional leadership and educational practitioners as a strategy for addressing HIV and AIDS-related issues.

There is need to involve all stakeholders at all levels, which this research has tried to do in collection of data. Good and comprehensive life skills and sexuality education programs have a demonstrated positive impact on providing the necessary knowledge and skills that young people need to protect themselves.

When survey respondents were asked "What are the best ways for teachers to learn about HIV prevention, treatment, care, and support?" the majority of participants indicated that they should have a solid foundation of basic information. This highlights the need to go a step beyond simply knowledge. Teachers should be able to share their knowledge with students, other teachers, parents of students, and the communities in which they reside. While some indicated that it would be good to have a separate, required, and examinable course on HIV and AIDS in the pre-service teacher curriculum at TTIs, most indicated that the best ways to teach about these foundational HIV topics is to integrate it into the core curriculum for all pre-service teachers. Others indicated that more books should be made available to teachers which contain accurate information on HIV.

Several CAEs and a few survey participants mentioned the challenges teachers and learners often face to ensure that they obtain their ARVs on a regular basis. This queuing process often takes place at health clinics that are often far away from school settings, especially in rural and remote parts of the country. These findings support the recent Global Fund (2014) *TB and HIV Concept Note* that recognizes head teachers, teachers, and learners are often forced to miss school on a recurring basis to ensure that they are able to travel and receive ARVs in a timely and consistent manner. HIV generates a negative correlation between learners and teachers being able to have optimal time-on-task learning opportunities when they are forced to seek after and obtain ART in distant locations.

Five Key Recommendations

Among the most important things is for the MESVTEE to establish a guiding policy document on HIV education for all levels of education in Zambia (not just in the workplace) starting from pre-school to higher education and outside the classroom. A clear, sector wide policy document is necessary to help establish a foundation that other guiding documents can build upon. This *National HIV and AIDS Policy Framework* for the education sector should be in alignment with NAC's National Strategic Framework.

Second, the MESVTEE needs to establish a *National HIV and AIDS Education Sector Strategic Plan* that is aligned with NAC's *National Strategic Plan on HIV, STIs, and TB*; part of this education sector strategic plan should include a component on HIV education in PITT programs. We recognize that there is currently a draft of this document dated 2013-2017, however, it has not yet been approved. The next step would be to ensure that it includes an updated component on PITT regarding HIV and AIDS and afterwards approved. The MESVTEE should also ensure that Annual Action Plans for the *National HIV and AIDS Education Sector Strategic Plan* are established, remain current, disseminated to all key stakeholders, and implemented.

Third, the MESVTEE should do all it can to help teacher training programs to be better prepared to train teachers in how to integrate HIV and AIDS into the formal curriculum. Standards should be established and implemented at all higher education institutions that train pre-service and in-service teachers. Governments have the responsibility to ensure the safety of all children attending schools. This responsibility is especially important when it comes to OVC, including CLHIV. Focused education policies and legislation can help channel limited resources to families, communities, and schools. In addition, the following need to be put in place as a foundation to build an effective integration of HIV and AIDS into the curriculum and pre-service and in-service teacher training (PITT) programs:

- Make HIV and AIDS instruction part of the required training at PITT programs throughout the country, including in-service teacher training programs administered directly by the MESVTEE, CSOs, and development partners.
- Understand the vast scale of the epidemic and its potential to undermine the education system.
- Realize that teaching content and activities may in some cases conflict with community, cultural or religious practices, and societal norms and values.

This subject area must be properly professionalized, with the development of a corps of educators and teacher educators who are the specialized professionals in this field. We invest heavily in the multilevel preparation of teachers for mathematics, science, initial literacy, languages, the arts, and other areas—subject areas that prepare children and young people *for life*. We must also invest heavily in the multilevel preparation of educators for HIV and AIDS, sexual and reproductive health and life skills—subject areas that enhance the likelihood that children and young people *will live*. For too long we have toyed with this discipline and in doing so not only have we marginalized it but we have also failed to equip children and the young people who are at grave risk with knowledge, skills, attitudes, and values that could mean the difference between life and death for large numbers of them.

Fourth, strengthen the teacher training capacity within TTIs to deliver relevant HIV and AIDS education. At this point HIV and AIDS education courses and training seminars are

often only taught as elective courses in some participating TTIs. The training, however, could be more mainstreamed and efforts made to better integrate the coursework into the existing PITT curriculum. One example of how to better integrate HIV and AIDS into classes is through the Integrated Science Syllabus (see Appendix 1), but efforts are needed to provide additional HIV and AIDS training for PITs, including in other core subjects. In this way, greater coverage and training could exist than is currently the case through teacher training programs. Hence, in a world with AIDS, education should promote:

- *learning to know* - by developing the instruments of understanding, and communicating comprehensive and accurate information about the pandemic;
- *learning to do* - by fostering the acquisition of the psycho-social and other skills that enhance the ability to act responsibly and creatively against the disease in one's life and environment;
- *learning to live together* - by promoting the ability to participate and cooperate with others in a compassionate, caring, rights-based, non-stigmatizing, non-judgmental way; and
- *learning to be* - by supporting the development of life-affirming attitudes and value systems that help learners make healthy life choices, resist negative pressures, and minimize harmful behaviors.

Despite such large enrolments in TTIs, there has been a relatively high teacher attrition rate at both basic and high schools as a result of HIV and AIDS. The MESVTEE (2012) indicated that teacher attrition was at 5,671 in basic schools and 779 in high schools in 2012. To counter both the disease and the epidemic, it is recommended that educational provision in the area of HIV and AIDS be built on the four pillars of learning—learning to know, learning to do, learning to live together, and learning to be.

But over and above the policies, there must be a wholehearted effort to mainstream HIV and AIDS, sexual and reproductive health, and life skills education into the curriculum of every Zambian learning institution. The objective would be to empower participants to live sexually responsible and healthy lives. This type of education must start early and it must be done well.

Fifth, build incentives into the curriculum that will better help teachers as they integrate HIV and other sexuality education topics into the curriculum, including having these integrated examples as part of examinable material on national exams. The government of Zambia is striving to integrate HIV prevention, treatment, and mitigation information into the formal primary and secondary curricula. While teachers, counselors, senior men and women teachers, and administrators should be trained about general HIV and AIDS issues, recent studies show that there is a significant gap in what teachers actually know about the epidemic and this proves especially challenging for the successful implementation of PITT programs. In view of these findings, the development of a comprehensive and integrated PITT curricula study is long overdue.

The recently developed MESVTEE curriculum notes that in all subjects at the primary school level teachers will teach about HIV and AIDS as it is part of the curriculum introduction saying that the new syllabus integrates life skills as a solution to cross-cutting issues and themes such as HIV and AIDS, gender, human rights, reproductive health, corruption, good governance, environmental education, and water sanitation across the syllabus to ensure holistic development of the learner (Curriculum Development Centre 2012).

The emphasis on HIV and AIDS in the introduction section is encouraging; and it is also noted in each subject area; there is an overall emphasis on the integration of HIV and AIDS in the formal curriculum. The gap is that in some of the actual subjects' syllabi, there is no mention of how HIV and AIDS shall be taught. One good subject example is Home Economics where topics on Health Education and on Food and Needle Work, there is no mention related to issues of HIV and AIDS.

Another good example is in Integrated Science, where one component includes a brief mention of HIV and AIDS, and some direction from the syllabus is given on how the teacher may expand on this as needed (see Appendix 1 for the current Integrated Science syllabus). Much more needs to be added to the syllabus to include basic HIV and AIDS information in other subjects like Civic Education, Geography, Chemistry, and all other subjects in one way or another.

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2. The government ministries were agriculture; education, science, vocational training and early education (MESVTEE); health; gender and women's development; and community development, mother and child health. Nongovernmental organizations were represented by the Nongovernmental Organisations' Coordinating Council (NGOCC). Faith-based organizations were represented by the Catholic Church, Seventh Day Adventist Church, Northmead Assemblies of God, Evangelical Fellowship of Zambia (EFZ), Council of Churches in Zambia (CCZ), Zambia Inter-Faith Networking Group On HIV/AIDS (ZINGO), Churches Health Association of Zambia (CHAZ), and Lusaka Muslim Society. CAEs from Chalimbana University, Chreso University, and University of Zambia (UNZA Health Clinic, UNZA Response Unit, Lecturers, and UNZA Counseling Centre) also participated. Other relevant organizations/institutions included the National HIV/AIDS/STIs/TB Council (NAC); World Health Organisation (WHO); United Nations International Children's Educational Funds (UNICEF); United Nations Educational, Scientific and Cultural Organization (UNESCO); and the United Nations Population Fund (UNFPA).
3. Of the 11 TTIs in our sample, five had in-service teachers and nine had pre-service teachers during the months of data collection (October 2013 to February 2014). One TTI was just starting its teacher training program and had four pre-service teachers and three in-service teachers, all of whom participated in this study.
4. To assist in identifying and comparing group knowledge results, combined participant knowledge index scores were divided into three categories: low, medium, and high. Roughly one-third of combined group scores constituted a high-knowledge index score, one-third medium, and one-third low.
5. The primary modes of HIV transmission include sexual intercourse; mother-to-child transmission; and tainted blood through shared unsterilized needles, tattooing, shared knives during communal circumcision ceremonies, shared unsterilized razors, and blood transfusions. In Zambia the primary modes of transmission are casual heterosexual intercourse accounting for approximately 71 percent of HIV infections, low-risk heterosexual intercourse (21 percent); clients of sex workers (4 percent); partners of clients of sex workers (2 percent); men who have sex with men (MSM: 1 percent); and blood transfusions, medical injections, female partners of MSM (all less than 1 percent) (Global Fund 2014, p. 4).

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APPENDIX 1: UNIT 2.0 HEALTH SYLLABUS

General Outcomes:

- Recognise the importance of health
- Develop investigative skills on health

TOPIC	SUBTOPIC	SPECIFIC OUTCOMES	KNOWLEDGE	SKILLS
2.2.0 Health	2.2.1 Food Hygiene	2.2.1.1 Explain the importance of washing of food before eating it 2.2.1.2 Explain the danger of eating exposed food. 2.2.1.3 Explain the need to drink clean and safe water.	• Getting rid of germs • Causes diarrhea diseases. • Avoiding taking in germs/disease	• Communication • Identification • Demonstration
	2.2.2 HIV and AIDS	2.2.2.1 State what HIV and AIDS stand for. 2.2.2.2 Mention ways through which HIV can be transmitted 2.2.2.3 Explain how HIV can be prevented.	• Human immunodeficiency virus; Acquired immune deficiency syndrome • Contaminated Blood and body fluids. • Avoiding touching blood and body fluids, sharp objects.	• Comparing • Communication • Identification

Source: Adapted from Curriculum Development Centre (2012).

For secondary education level where students are a grown up, the following is what is to be taught on HIV/AIDS:

UNIT 9.0 HEALTH

General Outcomes:

- Recognise the importance of personal health
- Develop investigative skills

SUBTOPIC	SPECIFIC OUTCOMES	KNOWLEDGE	SKILLS
9.2.1 Sexually Transmitted Infections	9.2.1.1 Identify the common STIs 9.2.1.2 Explain HIV transmission 9.2.1.3Describe the prevention of HIV infections. 9.2.1.4 Explain the impact of HIV and AIDS on the population. 9.2.1.5 Identify ways of preventing sexually transmitted infections.	• E.g., HIV, syphilis, gonorrhea, warts • E.g., unprotected sex, blood transfusion with contaminated blood • E.g., condom use, one faithful partner • E.g., poverty, increase of orphans • E.g., condom use, avoid casual sex	• Identification • Comparison • Problem solving

Source: Adapted from Curriculum Development Centre (2012).

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