CRITICALLY ANALYSIS OF THE ZAMBIA'S STRATEGY OF SHIFTING OF HIV CARE FROM NURSES TO COMMUNITY HEALTH WORKERS

Hellen Lupili

Zambia

52nd International Course in health Development/Masters of Public health September 21 2015 – September 9 2016

KIT (Royal Tropical Institute)

Vrije Universiteit Amsterdam,

The Netherlands.

CRITICALLY ANALYSIS OF THE ZAMBIA'S STRATEGY OF SHIFTING OF HIV CARE FROM NURSES TO COMMUNITY HEALTH WORKERS

A thesis submitted in partial fulfillment of the requirement for the masters of Public health

By

Hellen Lupili

Zambia

Declaration

Where other peoples' work has been used (either from print sources or internet sources) I have carefully acknowledged and referenced in accordance with departments requirements.

This thesis "Critical analysis of Zambia's Strategy of shifting HIV care tasks from Nurses to CHW" is my own work.

Signature……

52nd International Course in health Development/Masters of Public health September 21 2015 – September 9 2016. KIT Royal Tropical Institute/Vrije Universiteit Amsterdam,

Amsterdam, The Netherlands.

September 2016

Organized by:

KIT (Royal Tropical Institute) Health Unit

Amsterdam Netherlands

In cooperation with:

Vrije Universiteit Amsterdam/Free University of Amsterdam (VU)

Amsterdam, The Netherlands.

Table of content **Page**

List of table

List of figures

Abbreviation

AIDS	Acquired Immune Deficiency Syndrome
ART	Antiretroviral Therapy
ASW	Adherence Support Worker
BMoH	Botswana Ministry of Health
CBV	Community Based Volunteer
CHA	Community health Assistant
CHW	Community Health Worker
CSO	Central statistics Office
CSOs	Civil Society Organizations
GDP	Gross Domestic Product
GGHE	General Government health Expenditure
HMIS	health Management Information System
HIV	Human Immuno-deficiency Virus
HPCZ	health Professionals Council of Zambia
HRH	Human Resources for Health
LAZ	Law Association of Zambia
MDG	Millennium Development Goal
MoH	Ministry of Health
NAC	Nation AIDS Council
NAZ	National Assembly of Zambia
OPE	Out of Pocket Expenditure
PE	Peer Educator
PHE	Private Health Expenditure
PLWA	People Living With AIDS
SADC	Southern Africa Development Community

UNAIDS	Joint United Nations for HIV/AIDS
UNICEF	United Nations Children's Fund
THE	Total Health Expenditure
ITS	World Health Organization
ZCC	Zambia Counselling Council
ZDA	Zambia Development Agency
ZDHS	Zambia Demographic Health Survey

Acknowledgement

My sincere gratitude goes to the Netherlands government for the Nuffic scholarship and government of the republic of Zambia for granting my study leave.

I greatly appreciate the patience and tolerance of the staff, lecturers at KIT and particularly to the team who guide me through the process of writing this thesis.

I thank God for taking care of my family while I have been studying.

Abstract

Background Zambia is one of the 30 countries accounting for 89% of the HIV infection and 57 countries with a critical health staff shortage in the world. In response to these challenges Zambia has opted to implement a task shifting strategy of shifting task from nurses to CHW as a way of expanding the pool of staff to provide HIV services.

Objective To critically analyze the Zambian strategy of shifting of HIV care tasks from nurses to community health workers, and to learn from other parts of the world using the WHO recommendations and guidelines as standard to identify the gaps.

Methodology The methodology for this study is literature review. Published and unpublished literature will be reviewed to retrieve relevant information for this study.

Findings Gaps identified in the Zambian strategy of shifting HIV care tasks from nurses to CHW includes not formally adopting task shifting as a public health initiative, having a specific task shifting policy and the country's inability to sustain the provision of essential health services by not adequately planning and costing for the implementation of the strategy.

Conclusion Zambia like other low income countries has recognized the value of task shifting and is implementing this strategy without fully considering the WHO recommendation and guidelines. Zambia can learn from evidence from countries such as South Africa and Botswana who have developed comprehensive CHW management policy and sustained the management of lay counsellors within the government health system respectively.

Recommendations Zambia to develop a task shifting policy with legal provision to protect the cadre to whom tasks have been shifted to and the patients, recognize and set a remuneration structure for all charged with extra tasks in order to retain the cadres introduced to provide HIV services.

Key words

Task shifting, community health worker, HIV care services

Word count 8535

CHAPTER ONE

1.0 Introduction

Service provision for 13% of HIV positive Zambians has become a challenge because of the critical shortage of health staff. The government has opted to implement the task shifting strategy in the provision of HIV services. This enables clients to access services in all primary health care facilities closer to their homes.

This study was conducted in order to critically analyze, identify the gaps and review evidence base on the current task shifting strategy being implemented in Zambia and other countries. The task shifting strategy is very critical to improve access to needed HIV care and critical examination of the roll out of the strategy. This strategy facilitates the reduction of HIV transmission, keep the HIV positive people healthy and contribute to the attainment of 2030 global target of 95% of the people knowing their HIV status, 95% ART coverage with 95% virology.

1.1 Concept Mapping

This section presents a brief overview of how the notion of 'Task Shifting' is understood in public health practice

Definition of task shifting is "a process of delegation whereby tasks are moved where appropriate to less specialized health worker. By recognizing the workforce this way, task shifting can make more efficient use of human resources currently available" (WHO, 2007). It is important to note that task shifting includes creation of a new cadre of staff who will take over one or some of the responsibilities (Paterson, 2007).

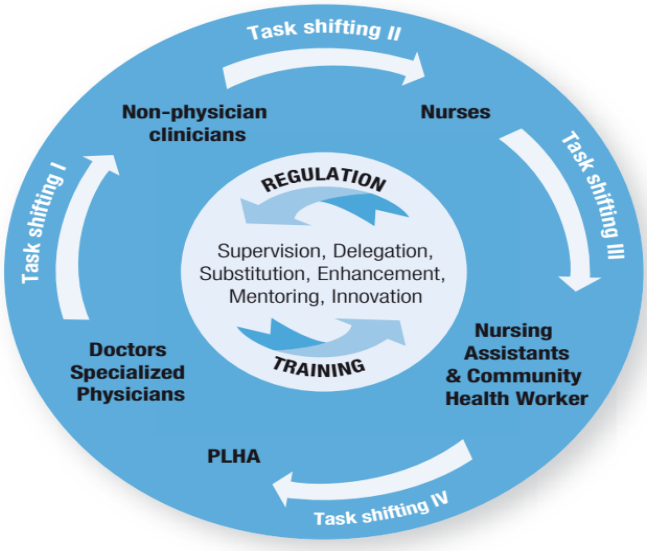


Fig 1 Types of task shifting Source WHO 2007

WHO describes 4 types of task shifting

Type I – the extension of responsibilities from a physician who is senior to non-physician for example a doctor to perform the duties of the senior.

Type II – this is the shifting of tasks from non-physician (doctor) who is senior to nurses

or midwives to perform the duties of senior staff.

Type III – the shifting of tasks from the nurse to the non-health worker or lay counsellor to perform the duties of the nurse.

Type IV – the shifting of tasks from the non-health worker to people living with HIV who have been trained in self-management to support others.

In this study we mainly discuss task shifting Type III.

In Zambia Community Health Workers are conceived as

"Members of the community who either work for pay or as a volunteer in association with the local health care system and usually share ethnicity, language, socio-economic status, and life experiences with community members whom they serve. They have many titles including home based care givers (often in work with faith based programs), health promoters, community health advisors, lay health advocates, community health representatives and peer health advocates"(MoH, 2010).

1.2 BACKGOUND

1.2.1 Geography

Fig 2 Map of Zambia with its neighbors (UN Maps)

Zambia is a landlocked country in sub-Saharan Africa with 8 neighboring countries (refer to fig 2). Zambia covers a land area of 752 612 square kilometers and is administratively divided into 10 provinces and 74 districts (CSO, 2015).

1.2.2 Demography

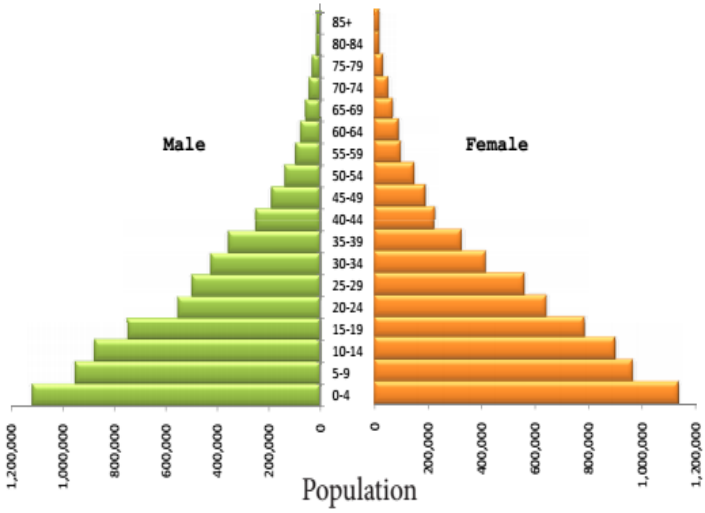


Fig 3 Population and sex structure (CSO, 2012)

Zambia's population has increased by 33.9% from 9,885-591 in 2000 to 13, 092,666 in 2010. Population distribution by sex stands at 49.3% for males and 50.7% for females (refer to fig 3), while by place of residence 60% for rural and 40% for urban. Zambia has a young population with a population of those below 15 being 45.8% and below 18 52% (Mujira, 2013). Population in transition reveals that some of the reasons why countries have youthful populations are the lack of use of family planning, low information on the family planning and the valued traditional status of having large families. This corresponds with the findings of the ZDHS 1992 when Zambia recorded the lowest contraceptive prevalence of 15% and the reasons why women did not use any family planning method was, they wanted to have more children and the lack of knowledge. It is important to note that the contraceptive prevalence has since than continued to improve from 26% in 1996 to 49% in the 2013 – 2014 DHS (CSO, 2015). Apart from that, the youthful populations have resulted into a high youth unemployment level of 16.7% in the country with a lower rural youth unemployment rate of 7.5% compared to their urban counterparts with 22% (CSO, 2012).

1.2.3 Social Cultural Context

Zambia has a multi-cultural society consisting of diverse racial, ethnic, religious and traditional groupings (WHO website). There are 73 ethnic groups in Zambia with 7 languages being commonly spoken and aired on the radio being; Lozi, Bemba, Lunda, Nyanja, Luvale, Kaonde and Tonga (apart from English the national language) (CSO 2012). 85% (8 million) of the people in Zambia are Christians (Missions Atlas Project website).

1.2.4 Economy

Zambia has been classified as a lower middle income. (World Bank, 2015). The GDP per capita was $1,721 with the Purchasing Power Parity was $3, 904 in 2014 (World Bank 2014). The main stay for the Zambian economy is copper mining and agriculture. With fluctuations in the pricing of copper and poor harvests due to changes in the rain patterns, among other things, the GDP has reduced 10.3% ($97, 215.88) in 2010 to 6.7% ($117, 743.12) in 2013 (CSO, 2014).

Indicator	Source	Status
Population	CSO 2010 Census, Interim results	13.2 million
Sex Ratio (Males per Female)	CSO	0.99
Average Annual Population Growth Rate	CSO Projections	2.7%
Life Expectancy at Birth	CSO Projections	51.3 Years
Population Under the Age of 15 Years (%)	CSO, 2000 Census	47%
Urban Population	CSO, 2000 Census	34.7%
Poverty Levels	ZDHS 2007[1]	67% (overall)

Table 1 Selected demographic and Socio-economic indicators (MoH, 2010)

1.2.5 Education and gender

Zambia's literacy rate for persons aged 5 and older as of 2010 was at 70.2 disaggregated by 60.5% in the rural and 83.8% in urban areas. Females had a lower literacy rate of 67.3% compared to the males with 73.2% (CSO 2012). The same report indicates that for the percentage distribution of the population (25 years and older) that ever attended school, considering the different level of education, females have a higher completion rate of 56.7% at primary school education than males of 39.7%. However, in the same proportion of the population aged 25 and older that ever attended school by level of education, males have a higher completion rate at secondary and tertiary levels with 42.6% and 17.5% than their female counterparts at 31.45% and 11.45% respectively.

1.2.6 Social political system

Zambia has a multi-party democracy with elections being held every 5 years with one republican candidate emerging as leader by a 50 plus one margin (LAZ website). There are 158 members of parliament in Zambia. 12.6% (20) are female (ZNA, website). The president appoints his cabinet to form government. The three arms for government namely judiciary (courts of law), legislature (members of parliament) and executive (cabinet) have a distinct separation of powers (ZDA website).

1.2.7 Health system and Financing

The health system in Zambia is organized in a pyramid based structure with basic health services being provided at the community level, health posts of health centers which cover a limited geographic area. The health centers are supported by the district and provincial level which is responsible for coordination of health services and the ministry of health headquarters responsibility of regulating the health care provision in Zambia by setting standards, policy making, target definition and monitoring and evaluation (MoH, 2010). The health services are provided by 79% Ministry of Health, 14% Ministries of Defense and Home Affairs and 6.5% Church Association of Zambia health institutions (WHO, MoH, 2010). Other service delivery structures include the private institutions which are both profiting or non-profit making; and CSOs. The strategy of providing mobile health services to the hard to reach areas, to improve access to health services, is also implemented. Traditional and alternative health care is quite significant, despite the long history of malpractice. Medical logistics, drugs and supplies are procured and donated centrally, delivered to the district level and then the districts distribute to the health centers. Leadership and governance is demonstrated by developing appropriate legislation and regulation, public policy, organization and management, planning and resource mobilization, accountability, transparency, monitoring and evaluation (MoH, 2012).

1.2.8 Healthcare Financing

MoH 2012, indicates that the health care system in Zambia is financed through a mix of financing mechanisms namely revenue collection, pooling and purchasing. Revenue collection consists of money received from donors, general tax and private expenditure (Chitah, 2015). Pooling has not a minimal contribution because only 500,000 people contribute to personal schemes. The Zambian government plans to introduce Social Health Insurance in November 2016 (HFP, 2016)

Between 2010 and 2013, the major source of finances, to support the health finances, has been the Private Health Expenditure (PHE) and donors. The PHE as percentage of Total Health Expenditure (THE) contributions ranged between 44.6% in 2010 to 42%, while the donor resources as a percentage of THE, ranged from 58% in 2010 to 34% in 2013 (refer to fig 3). Zambia has a high Out of Pocket Expenditure (OPE) as percentage of the THE ranging from 29% in 2010 to 28% in 2013. In light of the universal health coverage, there is no financial protection or financial equity as the poor households incur a lot of cost to access their services and this places a financial burden on them. This may contribute to the high poverty level of the Zambian citizens and poor access to health services (Chitah, 2015).

In terms of health expenditure, the analysis of the health care expenditure reveals the Total Health Expenditure (THE) as percentage of the Gross Domestic Product (GDP) has ranged between 4% in 2010 to 5% in 2013. The General Government Expenditure on Health (GGHE) has been constant at 12.6 since 2010 until 2013.

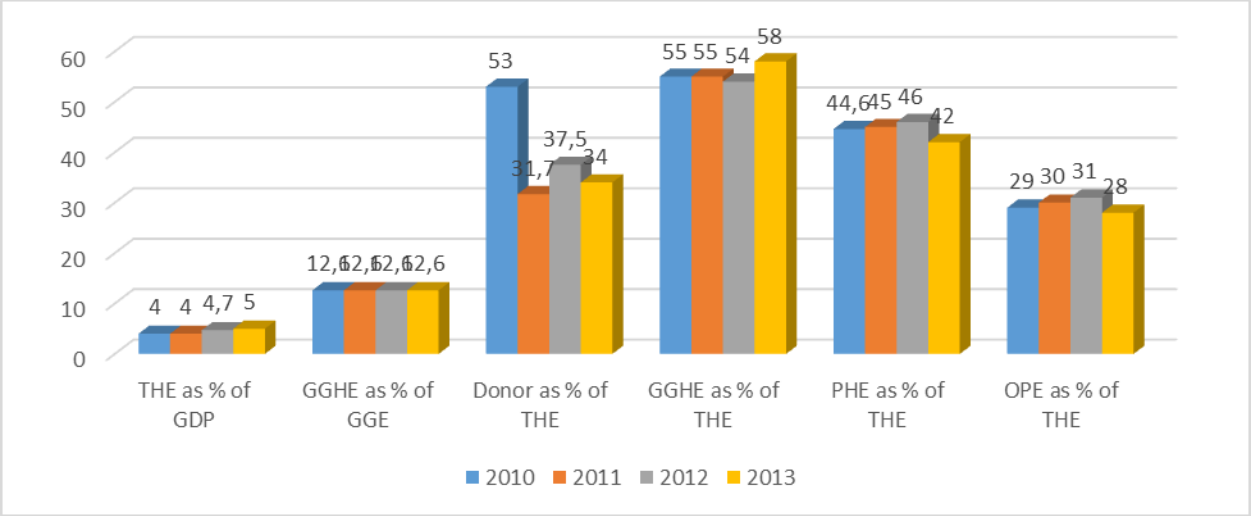


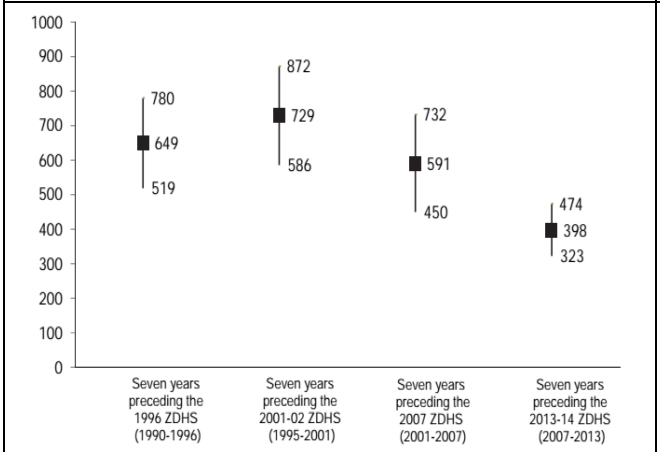
Fig 4 Analysis of health care income and expenditure (WHO, 2015)

1.2.9 Health Situation

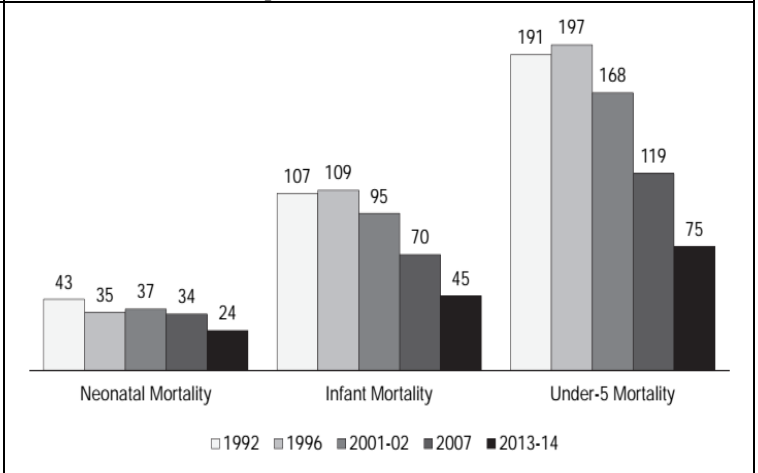
The life expectancy in Zambia in 2010 was 51.3 years (CSO, 2012). Even though Zambia has not attained the targets for MDGs 4, 5 and 6, the national has strived to reduce the maternal and childhood mortality rates between 1992 and 2014 [refer to figure 5] (CSO 2015). In 2012, spectrum projections estimated the Adult HIV incidence rate to be at 0.8% translating to 46,000 new infections (refer to fig 5).

Fig 5 Trends in Maternal and Child Mortality Rates from 1992 - 2013

MMR from 1996 – 2013



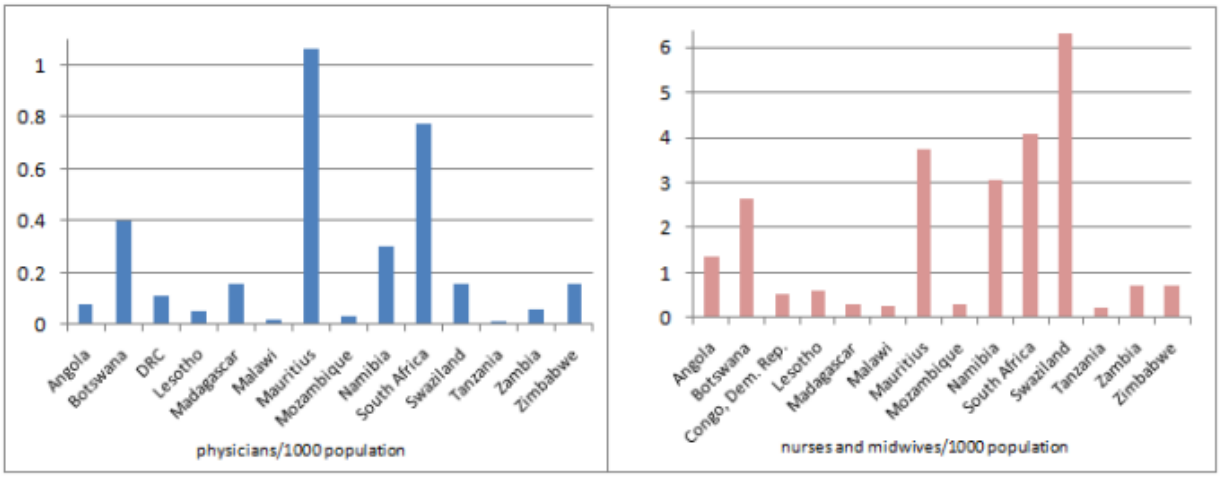
Child Mortality from 1992 – 2013



1.2.10 Human resource in the health sector

Zambia still faces a critical shortage of staff despite the recruitment exercises conducted in 2005 and 2012 (MoH, 2010). For every 1000 people the WHO suggested at least 2.3 health workers (which include the doctor, nurses, and enrolled and registered midwives) serve for the essential clinical interventions and minimum public health. The WHO further proposed that at least 0.55 physicians and 1.73 nurses per 1000 to achieve the MDGs (Herbst, 2011). Herbst, 2007 reported the Zambia's health worker ratio was 0.0777/1000 for doctors and 0.6905/1000 for nurses. As of 2010, Zambia still had a low health worker ratio, refer to fig 6 below.

Fig 6 Physician, nurse and midwife per 1000 population for selected SADC countries



Source: MoH/World Bank African Region Development 2010

CHAPTER TWO

2.0 Problem Statement

Zambia is one the countries in Sub-Saharan Africa with a mature generalized HIV epidemic whose mode of transmission is mainly heterosexual (NAC, 2015). The adult prevalence is 13%. 671,066 adult and children are on ART as of 31 December 2014. Although there is a reduction in the adult prevalence from 14.3% in 2007 to 13.2% in 2013 as well as among young women aged 20-24 from 11.8 in 2007 to 11.2% in 2013; reproductive people and the children are still threatened by the epidemic (CSO, 2015; and HMIS). Focusing on accelerating access to all the HIV prevention, treatment and care remains on top in the MOH agenda (NAC 2011).

The WHO 2013 consolidates guidelines in the recommends of the use of the public health approach to improve access to ART in the countries, for the purpose of keeping reducing the HIV transmission and keep HIV positive people healthy. UNAIDS 2013, proposes a fast track strategy to bring the AIDS epidemic to an end, by each country prioritizing to rapidly scale up HIV prevention, treatment and care. Specific targets to be achieved by 2030 are 95% of the people knowing their HIV status, 95% ART coverage and 95% virology reduction. The same report indicates that Zambia is one the thirty countries in the world accounting for the 89% new infections worldwide. Therefore, an extra effort should be made to fast track "national responses, extensive mobilization of human resources and finances as well as national responses." Ethiopia has demonstrated that the use of public health approaches such as task shifting and decentralization are instrumental to the large scale up of ART in the country as recommended by the WHO (Assefa, 2014; WHO, 2008).

Task shifting is not new to Zambia as this has been implemented in the country following the 1978 Alma Ata declaration of primary health care, as community health workers were used for health promotion and community mobilization (WHO, 1994). Dovlo 2004, highlights that Zambia had substituted abortion management tasks to nurses or the use of clinical officers, to conduct obstetric procedures such as caesarian sections in the place of doctors. The WHO has revived the focus on task shifting, with the emergence of the AIDS epidemic, provided guidelines and recommendation on how to initiate and sustain the task shifting response (WHO, 2008). The task shifting response implies that tasks can be reassigned to different

cadres of staff in the clinical setting. For instance, Nurses can be engaged to prescribe drugs, lay health workers may take on nurses' tasks and the HIV positive clients can be involved in their own care (Callagan, 2010).

Task shifting involves delegating tasks from nurses to nurse assistants and Community health workers. This has been helpful, especially in the rural areas which have a limited number of health care providers. CHW referred to as lay counsellors or Adherence Support Worker (ASW) or Peer Educator (PE) and are engaged in the provision of HIV prevention treatment and care (UNICEF, 2012). A new cadre called a Community Health Assistant has also been introduced in an attempt to formalize the CHWs with a view of repositioning and providing a career path for them (MoH, 2010). This has been achieved by the production of the National Community Health Worker Strategic Policy. The strategic plan further spells the job description of CHAs, salary, regulatory body and how they can progress career wise.

Despite the existence of task shifting in Zambia, evidence suggests that it has not been adequately integrated and formalized in the health system. Dovlo reports that there is limited recognition and appreciation of the roles of the cadres to whom tasks have been delegated to as awarding of incentives is biased towards doctors by government which appeared to be a threat to the scale up of the ART treatment "3 by 5" initiative advocated for by WHO (Dovlo, 2004). Other authors expressed concern on the continuity of the lay counsellors' program due to the lack of a long term sustainable plan, the desire for a structured payment and formalizing of the job, since they are considered as volunteers (Sanjana, 2009). Born 2012, recommended the need to address the following conditions clearly by defining the scope and practice, recognition structures and use of a certified program for training.

2.1 Justification

With 671,066 HIV positive clients on ART, the implication of providing a continuum of care for the HIV treatment cascade is dependent on skilled, motivated and a low burn out. But in the Zambian context, the skilled staff is not enough to support the system, and Zambia has consciously opted to implement a task shifting strategy as part of its response. Though the Ministry of Health has implemented task shifting in the past 5 years in the field of HIV care, there has been no critical analysis of how it is being operationalized and formalized. The task shifting initiative which currently is

being implemented in Zambia is clearly critical to improve access to the much needed HIV care services, and for it to work. It is important that one critically examines the rollout, identifies the gaps, learns from evidence and experiences from other parts of the world and continuously improve the implementation of the task shifting program. This study is a step in this direction, it will critically review the implementation processes and progress made by the government in implementing task shifting; it will do so with reference to the WHO task shifting guidelines and recommendations.

2.2 General Objective

To critically analyze the Zambian strategy of shifting of HIV care from nurses to community health workers, and to learn from other parts of the world in order to make recommendations to improve the strategy and its implementation.

2.2.1 Specific Objectives

- Critical analysis of the task shifting strategy being implemented in Zambia.
- Identify the gaps in the current approach
- Review the evidence base on the task shifting strategies and their implementation specifically from countries with similar context.
- Draw lessons from the evidence in order to inform the task shifting strategy and implementation.

2.3 Methodology

The methodology for this study is literature review. Published and unpublished literature will be reviewed to retrieve relevant data for this study.

2.4 Search Strategy

Several websites, databases and search engines will be used to retrieve literature namely (refer to annex … for word in combination in reviewing literature pertinent to the topic)

Search engines: Google scholar
Academic research databases: PubMed, BioMed central, Cocraine library, VU e-library.
Specific organization websites: WHO, UN, Zambian Ministries of Health, Finance and National Planning, Education Science Vocational Training and

Early Child education, Chiefs and Traditional Affairs, Tourism and Arts; and Central Statistics office.

2.5 Inclusion and exclusion criteria

Documents written in English and published between 1980 and 2016, grey literature and abstracts of any published work will be used. Apart from that, focus will be restricted within the context of the thesis topic. Only literature on task shifting for nursing staff and CHW were included.

2.6 Conceptual framework

The WHO recommendations and guidelines on task shifting of HIV care will be used as a standard to analyze the Zambian strategy of shifting of HIV care from nurses to community health workers. The WHO guidelines and standards are briefly summarized below.

2.7 WHO Global recommendations/guidelines for task shifting of HIV care

2.7.1 Adopting task shifting as a public health initiative

Countries opting to adopt task shifting should collaborate with appropriate stakeholders as well as consider other services constrained by shortage of staff while making an effort to address the need to employ more skilled staff. The governments should engage very pertinent stakeholders, such as people living with HIV and efforts should be made to work within an existing framework. Prior to adoption of the task shifting, the country should have a baseline on the human resources, in terms of numbers per cadre services, skills and tasks needed to be performed by each cadre in order to identify the gaps in the existing task shifting and quality assurance mechanism in HIV services being provided (WHO, 2008).

2.7.2 Creating an enabling regulatory environment for implementation.

Countries should analyze the regulatory frameworks such as laws, guidelines, rules and regulatory policies. Where they are gaps identified, governments should expedite the process of having a regulatory frame that would enable the new cadres, practice according to the expected scope of work. Apart from that, governments should work in a sustainable way of implementing task shifting (WHO, 2008).

2.7.3 Ensuring quality of care

Countries should put in place quality assurance mechanisms to monitor and improve the quality of services being provided by the cadres. This requires defined roles and associated competencies of each cadre. For new cadres' entry requirements should be stipulated for recruitment, training and appraisal. Building skills for these cadres should use standardized competence based training which is need based on and according to the scope of work for each cadre. Continuous professional development should be tied to registration, certification and career development of each health care provider in accordance to the national standards. Support supervision and a clinical mentorship schedule should be put in place for each cadre and this should be done by staff who is competent and has supervisory skills in the profession. Performance for each cadre should be enhanced by assessing staff against clearly established role standards and competence levels (WHO, 2008).

2.7.4 Ensuring sustainability

Countries should map out ways of rewarding the staff upon introducing the extra tasks for the existing cadre or the newly created cadre. These can be either financial or non-financial incentives, using whatever modalities there are feasible in the country to ensure performance of each cadre. Fundament to task shifting, governments should recognize that essential health services can be sustained by volunteerism. Therefore, adopting task shifting implies that the governments and the partners involved should adequately cost for all the activities needed to implement this approach. Namely recruitment training and wages/incentives commensurate to the tasks they perform monthly (WHO, 2008).

2.7.5 Organization of clinical care services

Countries should adopt task shifting models that are best suited for their circumstances based on the disease burden, health workforce demographics and identified gaps in the HRH situation analysis. In addition, a referral system should be put in place to effectively provide the quality of services and only tasks that are safe for the lower cadre should be relegated in the continuum of care of HIV services. Apart from the community health workers, PLWA can also provide safe and effective HIV services at the facility and community level as long as they are trained in specific tasks particularly to do with self-care and overcoming stigma and discrimination. Other health

professionals such as pharmacists, pharmacy technologists or laboratory technicians should not be left out in task shifting (WHO, 2008).

2.8 Study limitation

The literature search was limited to studies written in English.

CHAPTER THREE

3.0 CRITICAL ANALYSIS OF THE TASK SHIFTING STRATEGY BEING IMPLEMENTED IN ZAMBIA

This chapter will analyze the strategies used to implement task shifting from nurses to community health workers in the provision of the HIV prevention and treatment and care in Zambia using the WHO recommendations and guidelines as a standard to identify gaps in the current strategy.

3.1.1 APPROACHES FOR THE ADOPTION AND IMPLEMENTATION OF TASK SHIFTING IN THE ZAMBIAN CONTEXT

Analysis of current human resources for health in the public and non-state sector

Zambia is one of the 53 countries in Sub Saharan Africa with a critical shortage of staff. There is a gap of 59% for clinical staff while the administrative staff has gone beyond the needed levels by -20% (MoH, 2010). There is no evidence describing how Zambia has formally adopted task shifting, though the strategy is being implemented suggestive as a strategy being implemented without official recognition.

3.1.2 ANALYSIS OF THE EXISTING POLICY AND REGULATORY APPROACHES ON TASK SHIFTING IN ZAMBIA

In Zambia, there is no specific policy on task shifting. The Ministry of Health plans to develop the policy document in the future (MoH, 2011). However, the Zambia Counselling Council, National HIV Counselling and testing guidelines, National Community Health Worker Strategy and 2011-2015 National Human Resources Strategic Plan are providing the policy direction on task shifting from nurses to community health workers.

This section will critically analyze the provisions in each of these documents, to understand how conducive the environment is for task shifting for HIV services for CHWs in Zambia.

The Zambia Counselling Council – 1996

According to MSF 2015, ZCC is a regulatory body for certifying, registering and the issuing of practicing licenses for lay and psycho counsellors. It also protects its members, provides mentorship and guidance as well as ensures

that counselling standards are adhered to. Apart from that, the council attends all policy revision meetings on behalf of its members.

From the authors work experience, the ZCC capacity to reinforce all the provisions, it has mandated to do for its members, is limited. Lay counsellors are trained in all the provinces of Zambia and there is no effort to coordinate with training organizations the need for registration or collection of practicing licensees. Mentorship has become a function of the Ministry of Health through the health Centre or facility staff supervising the lay counsellors.

The National Guidelines HIV Counselling and Testing - 2006

The Zambian HCT guidelines are designed to ensure access to Voluntary Counselling and Testing. It has also adopted a human rights based approach to ensure that the clients personal integrity and welfare is protected. It outlines the operational procedure for CT services, record keeping, quality assurance procedure, guidelines for HIV testing and counselling. In view of task shifting, it allows trained lay counsellors to perform finger prick testing with a HIV rapid diagnostic test kit, pre and post-test counselling only to clients who have been voluntarily consented to be tested for HIV. The testing algorithm in the guidelines recommends the use of serial testing of HIV samples (WHO, 2015).

However, the guidelines only allow the Lay counsellors to conduct the HIV testing in the health facility and not in the community, which provides personal comfort for the clients and an ability to personalize the services. Apart from that, it allows the use of a tie breaker for clients who have an indeterminate test and which can lead to misclassification of a client's status (Mwangala, 2015). It is silent on the use of oral fluid based HIV rapid diagnostic testing for lay counsellors (Flynn, 2015).

Zambia National Community Health Worker Strategy 2010

The ZNCHW focuses only on the human resources management issues for the newly introduced cadres refer to as Community Health Assistants (CHAs). Specifically, the document attempts to formalize the CHW cadre and integrate them in the health system. It further specifies the anticipated duration of training, standardized training curriculums, reporting and supervision structure in the facilities or community, career path, job description, standard remunerations and regulatory body for the CHAs.

However, the strategy disapproves that the body of the community health volunteer is considered under this strategy as they are considered not to be a formalized cadre and only trained for 2 – 5 weeks. It also does not provide for the management of these trained volunteer lay counsellors or community health workers whom the WHO has formalized to provide HIV counseling and testing and is thereby not comprehensive enough. It does specify that the community based volunteer will only be formalized and absorbed as when they meet the selection criteria for CHAs training (refer to fig 7)

Fig 7 Community Health Structure (Source MoH, 2010)

National Human Resource for Health Strategic plan 2011-2015

This document focuses on the management, development and shortages of professional staff such as doctors, nurses/midwives, clinical officers and medical licentiates whose skills are vital to the provision of quality health services.

However, the document hardly addresses the task shifting concerns in the context of expanding the pool of health workers to the extent of embracing the complimentary roles of trained volunteer CHW. It merely indicates the intent to develop a task shifting policy as well as to implement coaching, support supervision, mentorship and regular in-service programs to the lower cadre (MoH, 2011).

3.1.3 ENSURING QUALITY OF CARE

Adapted quality assurance mechanisms to support task shifting

Zambia has adopted the WHO recommended quality assurance mechanisms of training, supervising and clinical mentoring of cadres to whom tasks have been shifted (MoH, 2012). Morris et al, 2009 describes a comprehensive quality assurance mechanisms defining the roles and training programs for clinical officers, nurses and peer educators with supervision and one-on-one clinical mentorship by a team of trained mentors of physicians and nurses. This is sustained by a comprehensive quality assurance program comprised of exchange visits between clinics to improve overall clinical quality, evaluation of clinical care services and feedback and training in areas of poor site performance.

Task shifting further recommends the introduction of new Cadres. The ministry of health in conjunction with the General Nursing Council of Zambia (GNC), University of Zambia (UNZA) and other cooperating partners introduced the HIV Nurse Practitioner (HNP) who has had their task shifted from physicians (Mulenga et al 2015). Their roles are clearly defined and the entry requirement is being a qualified (two years training) or registered (three years training) nurse to be enrolled in a one year competence based training program, consisting of intensive clinical mentoring and didactic classwork; and candidates quality with a diploma and certified by the General Nursing Council of Zambia (McCullock et al 2016). However there is an insufficient on going mentorship for this cadre after training and an inadequate training duration (Mulenga et al 2015). Apart from that, there is no legal provision for them to provide these services (McCullock, 2016).

Another cadre introduced by MoH is the Community Health Assistant (CHAs) who has trained for one year in this program and is selected from the pool of community based volunteers, which includes the volunteer CHWs and after training they are deployed back to work in the districts where they came from, thereby integrating them in the health system (MoH, 2010). Their curriculum is developed by accredited institutions such as UNZA, GNC, Health Professionals Council of Zambia (HPCZ) and Lusaka School of Nursing. CHAs are considered to be competent compared to other volunteer cadres because they are awarded with certificates by the Examination Council of Health Services. They are registered and issued with practicing licenses by the HPCZ and a career progression path to nursing, clinical officers or any other medical is permissible for CHAs (Zulu et al, 2015; MoH,

2010). However other reports have highlighted that the payment of allowances for the CHAs are delayed or are not available for some of them. Apart from that, the health post supervisors at the facility are not oriented, giving rise to the misconceptions about the role of and inadequate knowledge on CHAs program (Zulu, 2014). Shelley et al 2015 reports that supervision is insufficient as the supervision mechanism was inconsistent thereby limiting the assurance of services provided by the CHAs.

Literature does not clearly highlight the performance assessment mechanism for both cadres, owing to the fact their condition of services and performance evaluation process are not yet addressed.

3.1.4 ENSURE SUSTAINABILITY

LaPelle 2006 defines sustainability in the health program as a "capacity to maintain program services at a level that will provide ongoing prevention and treatment for health problem after termination of major financial management and technical assistance from external donor." Torpey describes how the elements of sustainability have been strengthened in Zambia namely technical (training of cadres, mentors and development of standard tools for QA/QI), financial (funding of HIV services from program design, implementation and MoH as part of the exit strategy), programmatic and social (creating demand for services). Despite these efforts, Zambia has not put in place mechanisms to sustain the task shifting strategy for the existing and the new cadres to whom tasks have been shifted to.

Literature reveals that, Zambia has opted to utilize volunteers CHWs, trained by various cooperating partners, providing HIV prevention, treatment and care services in conjunction with the MoH as part of the task shifting strategy (Torpey 2008, Morris 2009 and Sanjana 2009). There is no policy for the package of incentives to be given to the volunteer CHW or CBV (Sunkutu, 2009). There is no coordination and standardization of incentives for all community based volunteers making them look for multiple organizations to serve in order to make ends for their families (Sunkuntu, 2009). Apart from that, owing to the stakeholder involvement in handling the CHAs program, there is insufficient program ownership resulting in the district health teams not being fully and confidently involved in the management of their affairs as they are considered to be a special group (Zulu, 2015). The payment of allowances for the CHAs are delayed, erratic or not available for some of them, despite signing a contract indicating that they will be paid a monthly salary (Zulu, 2014). No means of travelling to

cover a large catchment area and challenges arise in fulfilling salaries for CHAS because the government depends on funds from cooperating partners and inadequate supplies needed logistics for providing needed services (Perry, 2014). Similarly the newly introduced cadre of the HIV Nurse Practitioners are not compensated and recognized for the services they provide (Mulenga et al 2015).

Despite the MoH planning for training and recruitment of 5000 CHAs to improve access to health services in the rural areas, the resource envelope in the HRH 2011-2015 strategic plan has only made provision to fund the evaluation of the CHAs training program after one year of implementation without considering the cost of implementing the recruitment process later on the remuneration of CHAs will come from. Therefore there is a gap in the government's inability for meeting the financial or non-financial incentives for all cadres whose tasks have been shifted. This may be a response to adhering to the defined Ministry of Finance personnel emolument ceiling according to the IMF or World bank set restrictive conditions, for hiring staff or improvement of remuneration for staff (Bemelmans 2016).

3.1.5 ORGANISATION OF CLINICAL CARE SERVICES

The increase in the HIV disease burden has influenced the move of care from hospitals to primary health care facilities of further on to the community levels for stable patients (Bemelemans, 2014). One model of HIV services in Kenya is being provided by community based lay workers, for stable patients reduced clinic visits, without compromising patient outcomes (Wilkinson, 2013). Similar to Zambia has adopted task shifting models according to the country's context. Owing to the readily available volunteer CHW, introduced with the coming of primary health care, the task shifting models have utilized this cadre to develop as well as health workers to provide HIV services both at facility and community levels (Campbell 2014).

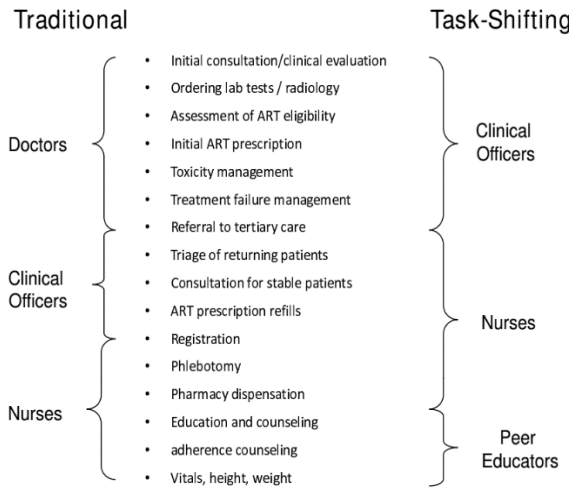


Figure 8 Administrative and clinical care responsibilities in the traditional health care model and the introduced task shifting model. Morris-2009

Morris 2009, highlights the task shifting model being implemented in Zambia with clinical tasks being shifted from doctors to clinical officers while clinical officer tasks being shifted to nurses and nursing tasks being shifted to peer educators which is in tandem with the WHO recommended types of task shifting (refer to fig 8, WHO, 2007). The staff to perform the tasks given competence based training and the use of treatment protocols or job

aids for the services they provide (Stringer, 2008). There is significant evidence that non-physicians provide safe and effective HIV service. For instance, the patients who receive HIV services from HIV Nurse Practitioners in Zambia are satisfied and appreciate the quality of services they provide (Mulenga 2015)). Cohort studies conducted in Rwanda and Ethiopia reported to have high retention rates above national targets to 89% and 91% respectively (Shumbusho 2009, Hartman 2011). The CHW based models involves the training volunteer as well as expert patients to serve as lay counsellors, peer educators and adherence support workers (Sanjana 2009, Born 2012, Morris 2009). The same reports have reported varying training duration per cadre with each organization using its own training materials and not all organizations have their trainees certified after training.

Despite the above achievements, there are gaps in the maintenance of an efficient referral system. Furth 2012, revealed that some facilities do not have referral notes and the referring facilities do not get a feedback from the next level where the patient was referred to. Apart from that, the models of transport provided are not suitable for the nature of the roads which become impassable during the rainy season particularly in the rural areas where only 50% (compared to 99% in urban areas) of the population live within 5 km of the nearest health facility (Furth 2012, ACCA 2013).

3.2 CRITICAL ANALYSIS OF TASK SHIFTING STRATEGIES IN FIVE OTHER COUNTRIES WITH SIMILAR CONTEXT TO ZAMBIA

This section will analyze the task shifting strategies being utilized by other countries in the Sub Saharan region. This is with the view of learning from the evidence based best practices from which Zambia can draw lessons from.

3.2.1 ANALYSIS OF THE EXISTING POLICY AND REGULATORY FRAMEWORK APPROACHES ON TASK SHIFTING

Gaps in the Legal or Policy framework

Despite not having a specific task shifting policy in South Africa, there are lessons which Zambia can learn from South Africa, regarding creating a conducive environment on task shifting, from nurses to lay health workers. South Africa has developed a Community Care Worker Management policy of 2009 which is inclusive and comprehensive to cover all volunteers providing HIV service under the auspice of support programs and home community-based care for social development and health (DoH, 2009). This document has replaced the Community Health Worker strategy of 2004 and focuses on management issues for community health workers which include

qualifications for training, immediate supervisor and coordinating bodies; conditions of service which are aligned to the provisions in the employment act. Apart from that, the HIV counselling and testing guidelines have been revised and updated to the current practice in HIV testing and counseling, particularly regarding the country's stance on self-testing and not allowing community health workers and nurses to use of oral fluid based test kit (DoH, 2015). Apart from that, the 2012/13 -2016/17 HRH strategic plan provides policy direction on task shifting in terms of reviewing and revising the scope of practice for all health workers, as well as develop agreements regarding CHW's terms and conditions service, standardized scope of practice, competences required, training and supervision package (DoH, 2011).

3.2.2 ENSURING QUALITY OF CARE

Gaps in maintaining the quality of care.

Ethiopia has managed to scale up art services by utilizing the public health approach which focuses on providing universal access to health services (WHO, 2015). This approach is implemented alongside a decentralized health system and task shifting (Assefa, 2014). Trained and adequately mentored nurses and health officers initiate the ART treatment to non-severe patients while community health worker provide adherence counseling (Assefa, 2012). The government has invested in strengthening the health system, building appropriate infrastructure, training more health professionals to expand the pool of health workers and improved the logistics supply (Assefa, 2014).

3.2.3 ENSUSURING SUSTAINABILITY

Gaps in adequate remuneration, appropriately planned and budgeted for

Botswana with one of the highest HIV prevalence began implementing task shifting as early as 2004 with lay counsellors being part of the roll out team (Dreesch, 2007). Lay counsellors are planned for, in the Ministry of Health Strategic Plan and lay counsellors are established positions on the government pay rolls and they receive a salary every month which makes this sustainable (MoH, 2012; Wagler, 2008). Therefore provision of essential health services is not done by volunteers. Apart from that, the government has considered the concerns about the compromised quality of services in

CADRE	MAIN ROLES
Adherence counselors	• Adherence counseling; pill counts; defaulter tracing
Health Auxilliary	• Assist nurse with vitals • Phlebotomy and other specimen collection • Clinic management and administration support; clerk/data entry if no clerk • Adherence counseling; health education • Laboratory clerical work; package samples; phlebotomy.
Laboratory Technician	• Conduct laboratory tests at base line and according to guidelines thereafter
Pharmacy Technician	• Drug dispensing and management; adherence education and advice
Social Worker	• Social assessment, counselling and referral for patients referred with social problems. • Backup Adherence counselors, FWE, nurses
Family Welfare Educators	• Defaulter tracing; peer counseling; treatment advocacy and motivation. • Other general clinical and clerical assistance to nurses only where no alternative available

Table 2 Clear roles per cadre in the ART services area source MoH 2012

the context of task shifting. As such, more profession staff provides clinical tasks with a low number of lay staff. The Ministries of health and the local government adequately plan and budget for all staff levels determined by the country's population, each person's role is clearly stated (refer to table 2). In the provision of HIV services, staffing in HIV services is based on function to be performed at each service area and according to the desired and realistic workload to be implemented per cadre. Therefore, the MLG projects the number of staff needed per PHC site. Lay counsellors are employed central and posted to the areas of need and then paid according to the determined salary scale on the MLG establishment (HRH, 2012). The governments funds 90% of the total health expenditure exceeding the set Abuja target of 15% (WHO, 2009).

CHAPTER FOUR: Discussion and Conclusions

The main aim of this study was to critically analyze how Zambia is operationalizing and formalizing the task shifting from nurses to community health workers as recommended by WHO. This section will discuss and highlight the gaps identified in Zambia's current task shifting strategy, and present the lessons to be learned from available evidence form the other countries to address these gaps.

4.1 Gaps in the Adopting task shifting as a public health initiative

The severe shortage of staff in Zambia has created a gap in the service provision of HIV services to such an extent that government responded by implementing task shifting. There is no evidence describing the process of formally adopting task shifting strategy by the government. However literature reveals that Zambia has been utilizing CHW since the adoption of Primary Health Care and informally sharing tasks among health workers in view of the chronic staff shortages in the rural areas which may suggest that health system transitioned into shifting tasks to among cadres in the era of the HIV epidemic.

4.2 Gaps in creating and enabling regulatory environment for implementation.

Zambia does not have a specific task shifting policy. The task shifting strategy is being implemented using the existing provision in the HIV Counselling guidelines which allows non-medical staff such as CHW to provide pre and post testing counselling and use the finger stick blood based testing kit. This is consistent with the findings in the other five countries (Flynn, 2015). The ministry of health has developed a National Community Health Worker strategy, which defines the conditions of services for a newly introduced cadre, with their roles. This is consistent with findings in South Africa and Botswana. The existence of the Zambia Counselling Council is an advantage for the purpose of certification and registration of CHW trained.

The gaps in this approach are that the National Community Health Strategy is not comprehensive enough to address the management of the volunteer community Health Workers, who are readily available, in all parts of the country. Apart from that, the volunteer CHW is not recognized in this document as well as in the National HRH strategic plan. Zambia can draw lessons from South Africa, who developed an inclusive and comprehensive community care giver who is equivalent to the volunteer CHW providing HIV services. The document has addressed the management of community care

givers. Through the country's HRH strategic plan, the government demonstrated its will to revise the scope of practice for all professional staff and the CHW (DoH, 2011).

The Zambia Counselling Counsel has limited operationalization of its functions, for instance reemphasizing the need for the members to be certified and registered as well, as the inability to provide the support supervision to its members. There is no nationally endorsed policy document or legislation that addresses task shifting for any cadre in Zambia. This is consistent with findings in other countries (USAID 2010, Munga 2012). The new cadre in nursing, HNO, has no legal protection for the services they are providing.

4.3 Gaps in ensuring quality of care

Zambia has challenges in ensuring the quality of care provided by the CHW. This arises from the inability to regulate the recruitment practices and not standardizing and accrediting of the training curriculum for CHW. This is consistent with evidence from countries as Tanzania and Botswana (Killewo, 2012; UoW, 2015; Ledikwe, 2013; Smith 2014). There is no memorandum of understanding with partners, on the standard training duration or systems of engaging the volunteers. Other features such as supervision and mentoring or in services training are inconsistent. Apart from that, health system factors, such erratic supplies of laboratory reagents, inappropriate infrastructure and lack of orientation of health center staff in the supervisions, are attributing to a compromised service provision.

4.4 Gaps in ensuring sustainability

Zambia is struggling with the sustainability of CHWs. The country has not identified the ideal package for remunerating the CHWs. There is no standardized package for CHW and efforts to address this, have not been achieved (Sunkutu, 2009). The dependence on donor agency support, for training and remuneration, does not account for the sustained existence of CHW engagement in the provision of HIV services. This finding is consistent with the findings in Tanzania, Malawi and South Africa (ASH 2015, Greenspan…, Mwisongo, 2009). From the author's work experience, CHW are an added asset to the provision of not only HIV services but sometimes even going out their way to provide services to the community, yet there is no sustainability of remunerating them. Woolman 2009, sums up the governments' inability to strategize on remuneration of CHW as a "retrogressive measure" while Mendeva 2016 describes task shifting to CHW as exploitation of the cadre. However Zambia can draw lessons from

Botswana who has integrated lay counsellors in the health sector (BMoH, 2012).

4.5 Organization of clinical care

In as much as CHW being trained as peer educator, expert patients are being trained as Adherence Support Workers or any other in in the provision of HIV prevention, treatment and care, there is evidence that the referral services components are not adequately addressed. With 50% of the rural population not living within 5 km, the community should be provided with a referral system for clients to access the health services. The gap of the poorly coordinated referral system also frustrates the provision of health services for CHW in Zambia.

4. 6 Usefulness of the framework to the study

The WHO recommendations and guidelines have been helpful in appraising the literature found in line with the research objectives. It has helped to shed light on how Zambia has designed and implemented task shifting, in light of the critical staff shortages and the emerging HIV disease burden consequences. In as much as the guidelines were helpful, it did not provide the tools and insight to fully explain some of the specific contextual issues. For example, in the Zambian context (similar to many LMIC contexts), NGOs are major actors in the health sector, and development aid funded projects are ubiquitous. Standalone donor projects compete with each other to attract CHWs; this competitive process is a force that fragments efforts towards task shifting in general. The framework falls short in helping to a better understanding of this context specific situation.

4.7 Conclusion.

Low income countries have recognized the value of task shifting. These countries are responding to the critical staff shortage by implementing task shifting without adequately considering the WHO recommendation and guidelines in the provision of HIV services. With Zambia having a high HIV prevalence rate and introduction of ART, the burden of disease requires the adoption of the public health approach to improve access to HIV services. However, there are gaps that have been identified to be addressed, based on the evidence drawn from other countries.

CHAPTER FIVE

This chapter builds on the discussion and conclusions presented above to propose context appropriate and actionable recommendations to tackle the gaps identified in the Zambian task shifting strategy for HIV care. Recommendations are structured in terms of time line for action; for each recommendation, the process and actor responsible, are also proposed.

5.0 Recommendations

- **Preparation for the development of a task shifting policy**

The Senior Human Resources Officer at the MoH headquarters has to set the stage for development of the task shifting policy by conducting a situational analysis and reviewing evidence based success in the implementation of comprehensive task shifting strategy for the purpose of inform the development of a concept paper which should be shared the all stakeholders. This will be conducted from the 1st October 2016 to the 31st December 2016.

- **Creating a conducive environment for implementation of task shifting**

The Director of Human Resource Management in conjunction with the technical working group will develop a concept paper which will be shared with the minister of health and facilitated by the office of the permanent secretary. The Government has to create a task shifting technical working group, whose scope of work should be to develop an inclusive and comprehensive national task shifting policy or legal framework to provide and protect all health care providers who take on extra tasks as well as providing for the patients autonomy and beneficence. Apart from that the policy has provided guidance on the integration of task shifting as a formal option of expanding the pool of health care providers. This process will be conducted between the second week of January to the end of June 2017.

- **Improved quality of HIV services**

The government has to strengthen the provision of quality assurance mechanisms by developing training programs which are accredited and standardized for all health workers and to reinforce certification of all staff trained. Health center staff has to provide supervision to be oriented as well as include to this element in the health facility performance tool, for constant monitoring and reinforcement of appropriate supervisory skills.

Adequate provision of job aids, quality monitoring tools and reinforced by consistent on site mentorship. To set standards to govern the training and recruitment of existing and new cadres. This will be coordinated by the Director technical Services in liaison with professional bodies and other stakeholders from the first week of January to the end of July 2017.

- **Recognition and remuneration structure.**

The Ministry of health in conjunction with the Public Service Management Divison should recognize the new cadres introduced, or extra tasks in order to adequately develop a lasting solution for remuneration equivalent to the work done. This improves job satisfaction and retains the newly recruited cadres. For volunteer CHW, efforts have to be made to standardize the financial and non-financial incentives and government to reinforce adherence to set a standard by including these standards in the memorandum of understanding signed with the implementing partner. Integration of community health, assists the health system to include in employing them in the ministry of health with a consistent payment of a monthly salary. This will be coordinated by the Deputy Director Human Resource Management and the Director for PSMD in conjunction with union representatives from March to July 2017.

Reference

ACCA, 2013. Key Health Challenges for Zambia. Viewed 12-08-2016. http://www.accaglobal.com/content/dam/acca/global/PDF-technical/health-sector/tech-tp-khcz.pdf

Assefa Y, Alebachew A, Lera M, Wouters E, van Damme W, 2014. Scaling up ART and improving patient retention in Care: lessons learnt from Ethiopia 2005-2013. Globalization and Health 2014, 10:43. Viewed 02/08/2016. P 1-9. https://globalizationandhealth.biomedcentral.com/articles/10.1186/1744-8603-10-43

Assefa Y, Kiflie A, Tekle B, Mariam DH, Laga M, Van Damme W: 2012. Effectiveness and Acceptability of Delivery of Antiretroviral Treatment in Health Centres by Health Officers and Nurses in Ethiopia. J Health Serv Res Policy,17(1):24–29. doi:10.1258/jhsrp.2011.010135.

Bemerlmans M, Baert S, Goemere E, Wilkinson L, Vandendyck M, van Cutsem G, Silva C, Perry S, Szumilin E, Gerstenhaber R, Kalenga L, Biot M, Ford N, 2014 Community Support Models of Care for People on HIV Treatment in Sub Saharan Africa. Tropical Medicine and International Health 19;8:968-977

Bemerlmans M, Baerts S, Negussie E, Bygrave H, Biot M, Jamet C, Ellman T, Banda M, van den Akker T, Ford N, 2016. Sustain the Future of HIV Counselling to Reach 90-90-90: A Regional Country Analysis, 19 (1). Journal of International AIDS Society. DOI 10.744/IAS.19.1.20751. Viewed 25/07/2016. P 2. http://hd.handle.net./10144/610595

Born JL,Wamulume C, Neroda AK,Quiterio N,Giganti MJ, MorrisM,Bolton-Moore C, Baird S,Sinkamba M,Topp SM,Reid SE, 2012. Evaluation of a task shifting strategy involving peer educators in HIV care and treatment clinics in Lusaka, Zambia.Journal of Public Health in Africa 2012 ; volume 2:e3 02/08/2016. P8-13

Botswana Ministry of Health, 1996. Community Home Based Care for People with AIDS in Botswana operational Guidelines. AIDS/STD Unit, P/Bag 00451, Gabarone, Botswana. Viewed 6/08/2016. P 1- 35.

Botswana Ministry of Health, 2012. Botswana Human Resources Strategic Plan Development Overview. Viewed 12/08/2016. P 58-111.https://www.k4health.org/sites/default/files/Botswana%20HRH%20Plan.pdf

Callagan M, Ford N, Scheider H, 2010. A Systematic Review of Task Shifting for HIV treatment and care in Africa. Human Resources for Health 2010, 8:8. Reviewed on 2/08/2016. P 1-7. http://www.human-resources-health.com/content/8/1/8.

Campbell C, Kerry S, 2011. Retreat from Alma Ata?; The WHO's Report on Task Shifting to Community health Workers for AIDS care in Poor Countries. Global Public Health: An International Journal for research Policy and Practice, 6 (2). Pp 125-138. ISSN 1744-1692 DOI 10.1080/174441690903334232. 12/08/2016.

Central Statistics Office, 2012. Census of Population and Housing National Analytical report. Nationalist road, Lusaka. Viewed 24/02/2016. Pages 1, 2, 23, 63 73.

Central Statistics Office, 2015, Zambia Demographic Health Survey 2013-2014, Lusaka, Zambia. Viewed 17/03/2016. Page 112, 233, 252.

Chitah B.M, Jonsson D, 2015. Universal Health Coverage Assessment in Zambia. Global Network for Health Equity. Viewed 31/07/2016. P 1-14.http://gnhe.org/blog/wp-content/uploads/2015/05/GNHE-UHC-assessment_Zambia1.pdf

Departs of Health and Social Development, 2009. Community Care Workers Management Policy Framework. Tswane, South Africa. Viewed 1/08/2016. P http://www.cabsa.org.za/sites/default/files/2009%20-%20Community%20Care%20Worker%20Management%20Policy%20Framework.pdf

Department of Health, 2015. 2015 National HIV Counselling and testing Policy Guidelines. Republic of South Africa. 12/08/2016. P 6-49. https://www.health-e.org.za/wp-content/uploads/2015/07/HCT-Guidelines-2015.pdf. Viewed 12/08/016.

Department of Health, 2011. Human resources for Health South Africa. Human Resources for Health Strategy for the health Sector 2012/13-2016/17. Department for Health. Republic of South Africa. Viewed 12/08/2016. P 65-131.

Dovlo D, 2004. Using Mid-level cadres as Substitutes for Internationally mobile health professionals in Africa. A Desk Review. Human Resources for Health, 2004, 2:7. Doi:1186/1478-4491-2-7. Viewed 2/08/2016. P 1-12.

http://www.ncbi.nlm.nih.gov/pmc/articles/PMC455693/pdf/1478-4491-2-7.pdf

Dreech N, nyoni J, Mokopakgosi O, seipone K, Kalilani JA, Kaluwe O, Musowe V, 2007. Public-Private Options for Expanding Access to Human Resources for HIV/AIDS iin Botswana. Human Resources for Health 2007, 5:25 doi.10.1186/1478-4491-5-25. Viewed 12/08/2016. P 1-7.

Flynn D, Johnson C, Sands A, Wong V, Baggaley, 2015. An analysis of 48 National HIV Testing and Counselling Policies. WHO/HIV/2015. World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland. Viewed 04/08/2016. P 1-13.

Furth R, Crigler L, 2012. CHW Program Functionality Improvement, Performance, Engagement: Operations Research Results from Zambia. Technical Report. USAID Health Care Improvement Project. Bethesda MD: University research Co., LLC(URC). Viewed 15/07/2016. P 38

Health Policy Project, 2016. Health Financing Profile Zambia. 1331 Pennsylvania Ave NW, Suite 600 Washington DC 20004. Viewed 31/07/2016. P 1 -2. http://www.healthpolicyproject.com/pubs/7887/Zambia_HFP.pdf

Herbst HC, Gijsbrechts D, 2007. "Comprehensive and Accurate Data on Stock Profiles and distributions of Human Resources for Health in Zambia: An Analysis of the health facility Survey Data." Summary Finding Sheet, World Bank. Washington, DC. Viewed 17/07/2016

Herbst HC, Vledder M, Campbell K, Sjoblom M, Soucot A, 2011. The Human resources for Health Crisis in Zambia: An outcome of Health Worker Entry, Exit and Performance within the Labor Health Market. The World Bank, 1818 H Street NW, Washington, DC. Viewed 17/07/2016. P 15.

LaPelle N, Zapka J, Ockene J, 2006. Sustainability of Public Health Programs: The Example of Tobacco Treatment Services in Massachusetts.American Journal of Public Health, 96:1363-1369. Viewed 12/08/2016

Law Association of Zambia 2015. LAZ explains meaning of 50+1 vote. http://www.tiozambia.com/laz-explains-meaning-of-501-vote/

Ledikwe JH, Kejelepula M, Maupo K, Sebetso S, Thekiso M, Smith M, Mbayi B, Houghton N, Thankane K, O'Malley G, Semo B, 2013. Evaluation of a well-

established Task Shifting Initiative: The Lay Counsellor Cadre in Botswana. PloS ONE 8(4):e61601.doi:10.1371/journal.pone.0061601. Viewed 21/07/2016. P 4.

McCullock D, Chanda D, Masebe E , Mwale A , Wahila R, Wilson L, 2016.Supervisors' perceptions regarding the Zambian HIV nurse practitioner program and integrating graduates into the Zambian health system: A descriptive cross-sectional survey . Journal of Nursing Education and Practice. DOI: 10.5430/jnep.v6n7p140 URL: http://dx.doi.org/10.5430/jnep.v6n7p140 . Viewed 12/08/2016. P 140-150

Ministry of Health, 2010. National Health Strategic Plan 2011-2015. Ministry of Health, Ndeke House, Lusaka, Zambia. Viewed 3/08/2016. P 1-50.

Ministry of Health, 2010, National Community Health Worker Strategy in Zambia. Ndeke House, Haile Selassie road, Lusaka, Zambia. Viewed 25/05/2016. Pages 20, 21.

Ministry of Health, 2011, National Health Strategic Plan 2011- 2015, Ndeke House, Haile Selassie Road, Lusaka, Zambia. Viewed 24/05/206. Pages 3-69.

Ministry of Health, 2011. National Human Resources for Health Strategic Plan 2011 – 2015. Ndeke House Haile Selassie road, Lusaka, Zambia. Viewed 25/06/2016. Pages 28, 34, 60.

Ministry of Health, 2012. Guidelines for Clinical Mentorship of Health Care Workers in Zambia. Ndeke House, Lusaka. Zambia. Viewed 12/08/2016. P 1-13. http://pdf.usaid.gov/pdf_docs/PA00K5M3.pdf

Ministry of Health, 2012. National Health Policy, "A Nation of Healthy and productive People." Ministry of Health, Ndeke House, Lusaka, Zambia Viewed 3/08/2016. P 1-22.

Ministry of Health, 2012. Report on Design of Social Health Insurance Scheme for the Government of Zambia. Ministry of Health, Ndeke House, Lusaka, Zambia. Viewed 3/08/2016. www.moh.gov.zm

Morris M.B., Chapula B.T., Chi B.H., Mwango A., Chi F.H., Mwanza J., Manda H., Bolton C., Pankratz D., Stringer J.S.A., Reid S.E., 2009. Use of Task-shifting to rapidly scale-up HIV treatment services: experiences from Lusaka, Zambia. BMC

Health Services Res. 2009; 9:5. Doi: 10.1186/1472-6963-9-5. Viewed 29/06/2016. P 3.

Mujira T, Njelesani MC, Zulu JJ, 2013. The Condition of Young People. UN Zambia Signature Issues Series -#2. Viewed 17/02/2016. P 3. file:///C:/Users/newclient/Downloads/conditions_of_young_people_-_un_signature_final_29.07.2013.pdf

Mulenga HU, Chanda D, Mukanyimi B, Mukupo F, Katayamoyo P, Masebe EM, Gashongore I, Mulenga L, Mulenga PL, Musamba B, mutemi D, Mwanahamuntu F.H, Mwango A, Mweemba P, Phiri D, Wahila RN, Wilson L, 2015. Follow-up evaluation of first Two cohort of graduates of the zambia HIV nurse Practitioner program; International journal Journal of African Nursing science 2 1-9.12/08/2016.

Mwangala S., Moland KM, Nkamba HC, Musonda KG, Monze M, Musukwa KK, Fylkesnes K, 2015. Task Shifting and quality of HIV testing services: Experience from a national reference hospital in Zambia. PloS ONE 10(11): e0143075. Doi:10.1371/journal.pone.0143075. Viewed 13/07/2016 P 1-9

National AIDS Council, 2014. Zambia Country Report. Monitoring the Declaration of Commitment on HIV and AIDS and Universal Access Biennial Report. Viewed 3/08/2016. P IX. http://www.unaids.org/sites/default/files/country/documents/ZMB_narrative_report_2014.pdf

National AIDS Council, 2014. Zambia Country Report. Monitoring the Declaration of Commitment on HIV and AIDS and the Universal Access. Biennial Report. Viewed 25/05/2016. P 1-46. http://www.unaids.org/sites/default/files/country/documents/ZMB_narrative_report_2014.pdf

National Assembly of Zambia website. Viewed 24/05/2016.http://www.parliament.gov.zm/node/108

Sanjana P., Torpey K., Schwarzwelder A., Simumba C., Kasonde P., Nyirenda L., Kapanda P., Kakungu-Simpungwe M., Kabaso M., Thompson C., 2009. Task-shifting HIV counselling and testing services in Zambia: the role of lay counsellors. Human Resources for health, 7:44 doi:10.1186-4491-7-44 viewed 25/07/2016. http://www.boz.zm/snapshot_political.htm

Shumbusho F, van Griensven J, Lowrance D,TurateI,Weaver MA, Price J, Binagwaho A,2009. Task Shifting for Scale-up of HIV Care: Evaluation of

Nurse-centered Antiretroviral Treatment at Rural Health Centers in Rwanda. PLoSmedicine. 6(10): e1000163. Viewed 12/08/2016. P 1-12.http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2752160/pdf/pmed.1000163.pdf

Sunkuntu K, Namponya-Serpell N, 2009. Searching for Common Ground on Incentive Package for Community Workers and Volunteers in Zambia. The National HIV/AIDS/STI/TB Council, Zambia. Viewed 15/o7/2016. P. 22. www.nac.org,zm

Uganda Ministry of Health, 2010. National Home Based Care Policy Guidelines for HIV/AIDS. Ministry of Health, Kampala, Uganda. Viewed 6/08/2016. P 1-38

UNAIDS HIV Prevalence Maps. Viewed 06/08/2016. https://www.google.nl/search?q=unaids+hiv+prevalence+maps+for+africa&rlz=1C2AVNE_enNL663NL663&biw=1517&bih=756&source=lnms&tbm=isch&sa=X&ved=0ahUKEwjhj6rO7KvOAhUC1xoKHe30CdoQ_AUIBigB&dpr=0.9

Wagler M, 2008. The use of lay Counsellors for the prevention of Mother to Child Transmission of HIV: A case Study of Botswana's National PMTCT Program. Simon Fraser University Burnaby, BC, Canada. Viewed 21/07/2016. P 21

Wilkinson LS,2013. ART Adherence clubs: A Long-term Retention Strategy for Clinically Stable Patients Receiving Antiretroviral Therapy. S Afr J HIV Med. 2013;14(2):48–50. doi:10.7196/SAJHIVMED.924. Viewed 12/08/2016. P http://dx.doi.org/10.7196/sajhivmed.924

World Health Organization, 1994. Experiences with Primary Health Care in Zambia. WHO, Geneva Switzerland. Viewed 21/06/2016. Page 10

World Health Organization, 2008. Task shifting global Recommendations and guidelines. WHO press, World health organization 20 Avenue Appia, 1211 Geneva 27, Switzerland. Viewed 29/05/2016. P 2-5. http://chwcentral.org/sites/default/files/Task%20Shifting-%20Global%20Recommendations%20and%20Guidelines_0.pdf

World Health Organisation 2009. Country Cooperation Strategy at a Glance. WHO/DRG/CC=/09.03/Botswana. Viewed 12/08/2016. P 1-2. http://apps.who.int/iris/bitstream/10665/136997/1/ccsbrief_bwa_en.pdf

World health Organization, 2015. Consolidated Guidelines on HIV Testing Services. World Health Organization, 20 Avenue Appia, 1211 Geneva 27, Switzerland.

Zambia Development Agency website. Viewed 3/07/2016. http://www.zda.org.zm/?q=content/political-system

Zulu JM, Hurtig AK, kinsman J, Michelo C, 2015. Innovations in health service delivery: integrating CHAs into the health system at district level in zambia. BMC, Health services research 15:38. DOI 10.1186/s12913-015-0696-4. 12/08/2016. P 1-12.

Zulu JM, Kisman J, Michelo C, Hurtig A, 2014. Hope and Despair: Community Health Assistants Experience of Working in Rural District in Zambia. Human Resources for Health 2014, 12:30 Viewed 16/07/2016. P 8 http://www.human-resources-health,com/content/12/1/30.