IMPACT OF HIV/AIDS SCALE-UP ON NON-HIV PRIORITY SERVICES IN NYANZA PROVINCE, KENYA

Submitted by

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DECLARATION

This research thesis is my original work and has not been presented for a doctorate degree or any other award in any other university.

Signature……..…….. Date…….

OPOLLO ATIENO SARAH VALARIE

This research thesis has been submitted with my approval as the Supervisor

Signature……..…. Date…….…….

PROF. T. PUCKREE

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LIST OF ACRONYMS/ABBREVIATIONS

AIDS	Acquired Immunodeficiency Deficiency Syndrome
ARV	Antiretroviral
CDC	Centers for Disease Control and prevention
GAVI	Global Alliance on Vaccines Initiative
GFATM	Global Fund to fight AIDS, TB and Malaria
GHI	Global Health Initiative
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome
HIVSUP	HIV scale-up programs
HMIS	Health Management Information System
HOD	Head of Department
IAVI	International AIDS Vaccine Initiative
ICAP	International Centre for AIDS care and treatment Programs
IMF	International Monetary Fund
LIMS	Laboratory Information Management System
LMIC	Low and Middle Income Countries
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MOH	Ministry of Health
NASCOP	National AIDS and STD Control Programme
NGO	Non-Governmental Organization
PEPFAR	United States President's Emergency Plan for AIDS Relief
RSL	Resource Limited Setting
SDGs	Sustainable Development Goals
SPSS	Statistical Package for the Social Sciences
TB	Tuberculosis
UNAIDS	joint United Nations programme on HIV/AIDS
UNICEF	United Nations Children's Fund
US	United States
USAID	United States Agency for International Development
WHO	World Health Organization

SUMMARY

Background: The HIV pandemic has attracted unprecedented scale-up in resources to curb its escalation and manage those afflicted. Although evidence from developing countries suggests that public health systems have been strengthened as a result of scale-up, only anecdotes exist in other countries. Despite scale-up, the prevalence of HIV/AIDS is still high and the resultant mortality and morbidity demands a refocus. Furthermore, the HIV/AIDS epidemic has severely strained vulnerable health systems in developing countries leading to concerns among policy makers about non-HIV priority services. Although anecdotally, it is clear that HIV scale-up has had profound effects on health systems, available evidence does not allow for an assessment of the impact of such effects on health care access, service delivery or medical outcomes for non-HIV conditions.

The aim of this study was to determine the impact of HIV/AIDS scale-up on non-HIV priority services in the former Nyanza Province, Kenya. Additionally we determined the benefits and detriments of HIV programmes, and identified the elements of successful HIV programs and their effect on scale-up and last but not least determined the perceptions, attitudes and experiences of health care staff towards scale-up and integration of health care services.

The first part of the main sequential study reviewed practices during scale-up by looking at public health facilities within the Province at Nyanza in Kenya. This looked at health management information systems (HMIS) and routine health facility client records for five years, 2009-2013 with a comparison of trends in 2009 to that in 2013. This data was reviewed in order to show trends in delivery of HIV priority and non-HIV services. The second part of the study utilized a prospective cross sectional survey to determine perceptions, attitudes and experiences

of facility personnel towards HIV/AIDS scale up. Randomly sampled facilities involved in the delivery of any aspects of HIV diagnosis care and treatment were investigated. Self-administered questionnaires and in-depth interviews were used to obtain information on impact of HIV services on non-HIV priority services on health managerial staff in the facilities and key informants who have shaped scale up. We created a qualitative codebook based on three major themes identified from the data: (1) Meaning and importance of HIV scale-up (2) Perspectives of scale-up on service delivery on non-HIV services and (Ministry of State for Planning) Health facility staff awareness.

The findings indicate that the interventions that were utilized in the scale-up of HIV in 2009 resulted in significant increases in uptake of the service in 2013 ($p<0.01$) and total integration of HIV and non-HIV services at all the health facilities thereby contributing to improved health outcomes beyond those specifically addressed by HIV programs. This study has also shown that utilization of both HIV and non-HIV services increased significantly for both years after integrated HIV care was introduced in the health facilities ($p<0.01$). Notable increases were found for ANC utilization ($p=0.09$), family planning ($p=0.09$), screening for tuberculosis and malaria ($p<0.01$) and provision of support services ($p<0.01$) to HIV infected people. The scale up of HIV in the region had several human resource policy implications resulting from staff turnover and workload.

Stakeholder engagement and sustainability are critical in the sustenance of these initiatives. Strategic alliances between donors, NGOs and the government underpinned the scale-up process. Policies around scale-up and health service delivery were vital in ensuring sustainability of scale-up and service integration. This study has attempted to provide evidence on the impact of HIV

scale-up on non-HIV service delivery in three different settings, in two different time periods and it therefore concludes that the evidence is mixed with most of the impact being positive with some aspects that still needs development. It is critical to pursue the integration of HIV and non-HIV services in a strategic and systematic manner so as to maximize the public health impact of these efforts. The proposed model, best practices and practices requiring improvement will be communicated to the relevant ministries to ensure its integration into policy.

Keywords: HIV, scale-up, service delivery, non-HIV services

CHAPTER ONE: INTRODUCTION

1.1 Background of HIV Scale-up

The adoption of the United Nations Millennium Declaration and the Millennium Development Goals (MDGs) significantly changed the landscape of international development assistance during the last decade (Sundewall et al., 2011). The ambitious nature of the health and nutrition related MDGs has also led to a growing momentum within the field of global health. Global health analysts have debated whether donor prioritization of HIV/AIDS control has lifted all boats, raising attention and funding levels for health issues aside from HIV/AIDS (Shiffman, Berlan & Hafner, 2009). In the early 2000s, this momentum was marked by the establishment of several high profile global health initiatives (GHIs) such as the Global Fund to Fight AIDS, Tuberculosis and Malaria (The Global Fund to Fight AIDS), the Global Alliance for Vaccines and Immunization (GAVI), the United States President's Emergency Plan for AIDS Relief (US - PEPFAR), The US President's Malaria Initiative (PMI), The Stop Tuberculosis (www.tbcare1.org/ken) Partnership, The Roll Back Malaria Partnership and others, with the primary objective of reducing the burden of major diseases of public health importance. The establishment of these initiatives was associated with the expectation that strengthened health systems would be an inevitable consequence of increased health sector spending (Sundewall et al., 2011).

A World Health Organization (WHO) consultation meeting on health systems and global health initiatives established that despite the positive effects of increased resources, there are unintended side effects that have been observed from the scale-up initiatives, for example, the reduced capacity for health facilities to address health care needs of their populations (World Health Organization, 2008). A similar report given by Medicines' Sans Frontiers in 2016

suggests that for countries to upgrade and implement the WHO guidelines there is need for mobilization of political will and financial support, especially for countries with low HIV treatment coverage that otherwise risk being left behind (MSFaccess.org., 2017).

The efforts to scale-up, especially large and complex initiatives can therefore not be classified simply as positive or negative since HIV programs vary within broad contexts. According to Reich et al., (2008), health systems need both vertical and horizontal programs, working in harmony, to deliver effective, equitable, and affordable health services (Reich, Takemi, Roberts & Hsiao, 2008). Moreover, organizational structure and program management including incentives to service providers, influence the quality of service delivery, and a recent debate on donor procedures harmonization is a great start in addressing this problem, more importantly focusing on the quest to universal health systems strengthening through introduction of more disease-specific funds and not weakening the systems that exist (Global Health Policy at NYU-Wagner., 2017). Low and middle income countries (LMICs) have begun to study effective ways to deliver proven interventions at scale (Van der Borght et al., 2009). Therefore, there are promising signs that a ‘‘science of large-scale change in global health’’ is emerging (Maurice, 2016).

1.1.1 Global overview of HIV/AIDS, HIV Scale-Up and funding

Globally, around 39 million people have died from the HIV/AIDS pandemic since 1981. By 2015, 36.9 million people were living with HIV (UNAIDS, 2015b), this is a 17% rise from 2001 (WHO UNAIDS & UNICEF, 2011), largely due to greater access to treatment. This basically shows that there has been an increase in HIV prevalence over the years; moreover there have been very few deaths due to significant availability and easy access to antiretroviral therapy. World Health Organization in 2015 also showed that there was a great reduction in HIV

incidences by 25% between 2001 and 2009 in 33 countries, 22 of these countries were in sub-Saharan Africa (World Health Organization, 2015b). The number fell further in 2015 where HIV incidence was only seen in 2 million people globally, a decrease from 3.4 million in 2001 (UNAIDS, 2015a; World Health Organization, 2015a). Overally, since 2001 to 2015, new HIV infections have decreased by 33% and new HIV infections among children have declined by 52% (Interaction.org, 2015). The historical decline in HIV incidence indicates the successful efforts in scale-up that have led to an increase in access and availability of ART, as well as care and support services that are offered to HIV infected people, especially within middle- and low-income countries (WHO, 2011).

By June 2015, around 15.8 million people were on ART treatment, and this contributed to a greater access to treatment and reduction in morbidity and mortality among people living with HIV (UNAIDS, 2015b), thus meeting one of the millennium development goals set by world leaders in 2011 of ensuring that 15 million people were on treatment by 2015 (United Nations, 2013). Globally, 40% of people living with HIV were receiving ART treatment by 2014 out of which 76% were virally suppressed, meaning they were healthier and less likely to infect others. This number includes 41% of adults and 32% of children living with HIV, a clear indication that there has been a significant rise in the access to ART among children, although they have less access than adults (Population Reference Bureau, 2014). The percentage of pregnant women receiving ART for the prevention of mother-to-child transmission of HIV also increased to 73% in 2014, up from 36% in 2009 (Population Reference Bureau, 2014).

Scale-up of HIV care and treatment has been successful due to support from the government and donors. The universal disbursement of HIV control funds has grown over time, and by 2012, there was commitment for health and development through systems strengthening

(Interaction.org, 2015). The United States President's Emergency Plan for AIDS Relief (U.S PEPFAR) has been active since 2003 as the health care initiative spending billions of dollars in fighting HIV and AIDS, tuberculosis, malaria and other opportunistic infections (President's Emergency Plan For AIDS Relief, n.d). Other countries that support this goal include the United Kingdom (U.K.), the second largest donor in 2012 (10.2%), France (4.8%), Germany (3.7%) and Japan (2.7%). These top five donors accounted for most (approximately 80%) of total donor assistance for HIV over the last several years (UNAIDS, 2012) (Figure 1). By the end of 2014, US$ 20.2 billion was invested in combating HIV/AIDS in low-and middle-income countries (UNAIDS, 2014).

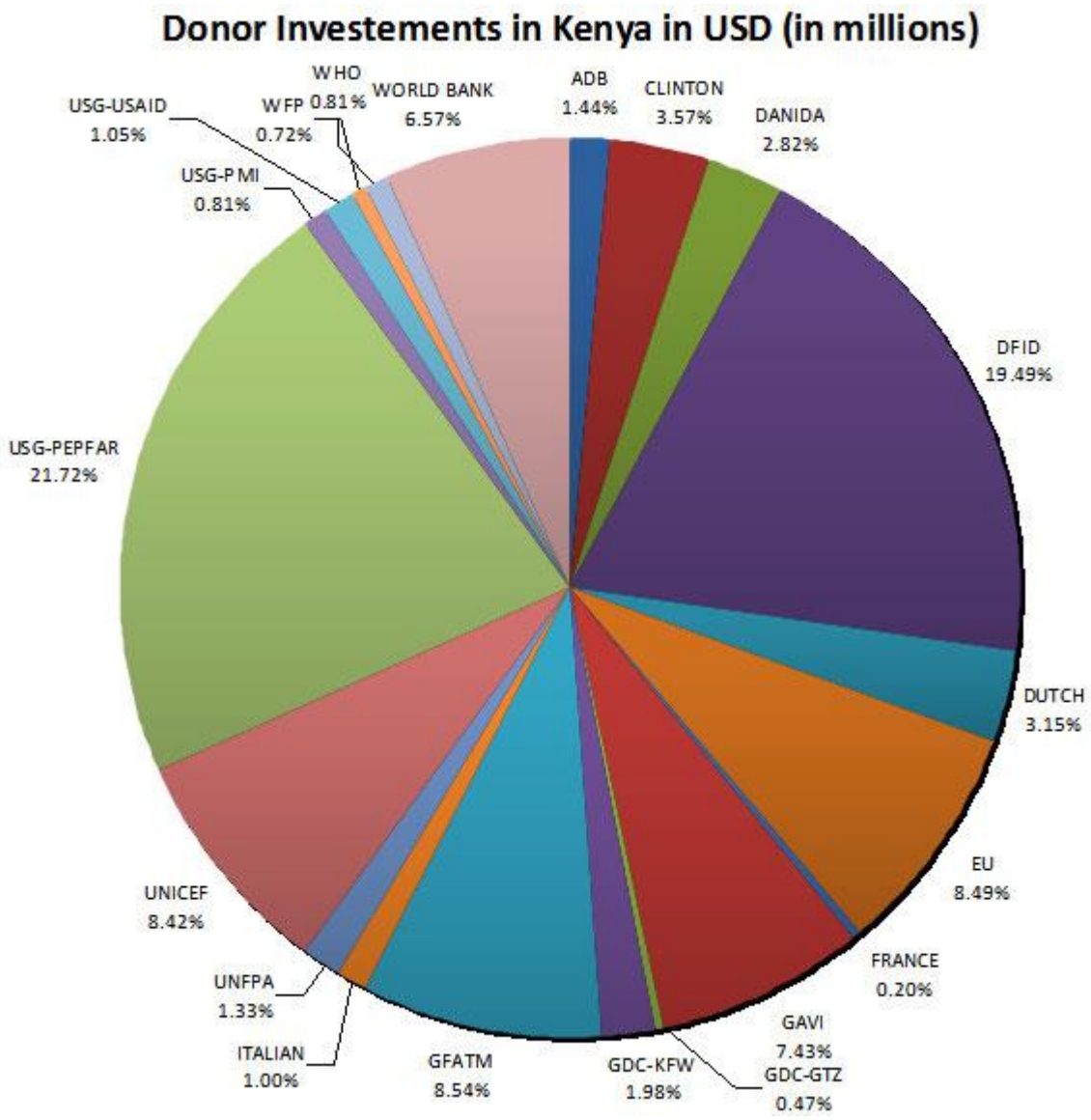

Figure 1: Donor Investment in Kenya

Source : Kenya funding at a glance, 2010

1.1.2 Regional overview of HIV Scale-up and funding

The HIV/AIDS pandemic has changed the disease landscape in low and middle income countries, especially in sub-Saharan Africa, mostly due to the rise of specific diseases thus leading to an increased demand for preventive and treatment services in order to respond to the epidemiological and clinical impacts of the pandemic (Preis & Cechurova, 2016). Success in

HIV prevention in sub-Saharan Africa has the potential to impact on the global burden of HIV. Furthermore, focusing on high transmission areas and key populations, together with the implementation of evidence-based combination prevention strategies has the ability to substantially reduce HIV transmissions and achieve epidemic control, potentially transforming the pandemic to low level endemic epidemics (Jones et al., 2014).

While HIV/AIDS funding has been positively welcomed - and with a lot of interest by some – there have been concerns raised by others on overfunding of HIV/AIDS levels in some African countries (Atun et al., 2016). However, efforts are in place to ensure that as funding and service delivery expands, adequate attention is focused on provision of efficient, quality and affordable services. This will ensure that service delivery is strengthened and thus lead to sustainable large-scale public health initiatives and improved outcomes for individual patients and programs by targeting the entire health system rather than few specific disease areas (Alistar & Brandeau, 2012). This is important in ensuring that even if funding is available for key diseases like HIV, TB or malaria, there should be a cascading benefit to delivery of other non-communicable diseases like diarrhea, upper respiratory tract infections, parasitic infections, diabetes and heart disease (Peters, 2009).

These efforts have been witnessed in some countries like Asia and the Pacific with varying success with scale-up of testing and counseling services, practices and policies (World Health Organization, 2007a). The same efforts have been enforced in Africa; however there has been an urgent need to scale-up HIV sustainable HIV services in Africa, especially the sub-Saharan region for the achievement of universal access targets by 2030. The end goal is to improve on quality service delivery and provision including provision of high quality treatment and treatment monitoring, positive prevention, care and support through high-level advocacy, mass

promotion of quality testing and counseling, a strong monitoring and supervision system and ongoing quality assurance (World Health Organization, 2009a).

1.1.3 Regional overview of non-HIV Programs and funding

There are documented concerns regarding the exceptional and high priority that donors place on HIV/AIDS (Grepin, 2012) more so because of the funding allocated specifically to HIV due to the burden (Shiffman, 2006; Sridhar & Batniji, 2008). However some countries that receive the HIV funding do not give it as much priority as noted by other countries, and these countries offer very limited support to HIV compared to other priorities within their countries, even among people infected with HIV (Dionne, 2011). There is wide recognition of the successes achieved through donor funding of HIV programs, however, several authors have documented their concerns in relation to the donor funding for HIV programs, noting that HIV funding is diminishing the funding support of other non-HIV programs (Lordan, Tang & Carmignani, 2011; Shiffman, 2008; Shiffman, Berlan & Hafner, 2009). The debate is focused on the impact of the increasing HIV funding for services like ART on other non-HIV services (Biesma, Brugha, Harmer, Walsh, Spicer & Walt, 2009; Garrett, 2007; Rabkin, 2009; World Health Organization, 2009b; Yu, Souteyrand, Banda, Kaufman & Perriens, 2008). The greatest challenge in HIV scale-up has been on human resource capacity, and the delivery of antiretroviral therapy, though the HIV program requires adequate human resources, both clinical and administrative (England, 2007). However, the number of health care workers in SSA cannot sustain the success of the ART delivery program and hence reallocating staff from non-HIV programs to HIV programs creates a gap in service delivery (Brugha, Kadzandira, Simbaya, Dicker, Mwapasa & Walsh, 2010).

Advocates of HIV programs, through the WHO Maximizing Positive Synergies Collaborative Group on the other hand, have suggested that devoting additional resources to HIV has strengthened existing health systems by bringing in new resources, which were put to use in improving overall health services delivery (World Health Organization, 2009b). The impact of HIV funding on the delivery of non-HIV health services thus remains a matter of debate.

1.1.4 HIV/AIDS Programs and health systems

Global health experts have in the past drawn attention to how HIV and non-HIV services integrate and interact (Matsubayashi et al., 2011; Piot, 2009). Others have argued that concentrated HIV/AIDS efforts should be adequate enough to strengthen the entire health system through a spillover of the HIV funding to other services by ensuring that adequate and qualified health care workers are available at the health facilities to address the gaps in the health system (Avdeeva, Lazarus, Aziz & Atun, 2011; Samb et al., 2009). Some experts also argue that there is a lot of negativity between HIV and non-HIV service delivery within the health care system, stating that HIV programs are disrupting the delivery of non-HIV services by overburdening the health system and giving priority of HIV service delivery (Dickinson, Attawell & Druce, 2009).

So far there is no clear assessment on overall HIV service delivery that incorporates non-HIV service delivery. A lot of focus has been on specific fragments of the health care system, for example, ART (Hanson, 2003) , service integration for diseases such as HIV and TB (Schneider, Blaauw, Gilson, Chabikuli & Goudge, 2006), HIV and maternal child health (England, 2009) or HIV and reproductive health services including family planning (Starrs, 2009).

This study determined the impact of HIV funding on the delivery of four categories of non-HIV health services in western Kenya between the years 2009 and 2013; child health immunizations, Tuberculosis, Malaria and maternal health services in three counties namely; Kisumu, Homabay

and Nyamira. These counties and outcomes were selected because of their varying HIV prevalence rates and the four services are generally delivered through government managed health systems. The analysis focused on the counties of western Kenya because they have greatest benefiters of HIV funding nationally. Health facility based comparable data for these services during the two time periods when HIV activities were being scaled-up within these health facilities are available. Although there has been an increased effort overtime to integrate HIV and immunization activities, the region has also observed some major efforts to integrate HIV and maternal health programs into general service delivery. In assessing the overall impact of HIV scale-up within the two periods, this study will be able to provide some comparison in terms of the level of HIV program and non-HIV service integration to inform on policy and sustainability.

The focus of this study was on the three health related Millennium Development Goals (MDGs) (United Nations, 2013) that were established in 2000 to measure development process, including health care, in an effort to reduce poverty (World Health Organization, 2010a). The three health related MDGs that this study focused on included: reducing child mortality (MDG 4), reducing the maternal mortality rate (MMR) (MDG 5) and stopping and reversing the spread of HIV/AIDS, malaria and other major diseases, including tuberculosis (MDG 6). In the fourth MDG, governments were required to commit to reducing child mortality (below age five) by two-thirds by the year 2015. The fifth MDG is a commitment to reduce the maternal mortality rate (MMR) per 100,000 live births by three quarters during 1990–2015, the maternal mortality ratio and achieving universal access to reproductive health by 2015, Goal six aimed at stopping and reversing the spread of HIV/AIDS, malaria and other major diseases, including tuberculosis (United Nations, 2015a). Most of these goals were met by 2015, and stakeholders then

committed to a different set of post-2015 goals known as the Sustainable Development Goals (SDGs). The SDGs are designed to transform the world by 2030 and to complete the 17 set goals – to get to a statistical "zero" on hunger, poverty, preventable child deaths and other targets (United Nations, 2015b). For a country to get to zero as proposed by the SDGs, there is need for focused empowerment of the poor and hard to reach communities, especially the marginalized (U.N, 2015). Merging the outcomes of the MDGs together with the SDGs will go a long way in the attainment of universal health care among other development activities – more work is required in sensitizing the opponents and proponents of both initiatives to work together in attainment of success by forming a unified agenda to ensure the zero target is attained, especially for poverty and also in ensuring long term sustainability for both efforts.

1.2 Rationale for the study- the setting

The scale-up of free ART treatment was launched in 2003 in Kenya, as an initiative of WHO in addressing public health needs in resource limited settings (Gargano, 2009). Kenya is moderately dependent on external donor funds through free ART, and most of the funds are used in supplementing the national budget for healthcare (National AIDS and STI Control Programme, 2012). However, despite the fast uptake in scale-up, the funds have not been adequate to sustain the scale-up activities, and this has been the greatest setback in addressing the health needs of its population (Cailhol et al., 2013).

Sub-Saharan African countries have faced lots of criticism and concern because of the rising HIV epidemic, this is further hampered by the weak health systems and challenges faced in health systems strengthening that have slowed down provision of effective service delivery to its population (Atun et al., 2016). To address the gap, there needs to be a holistic approach to improving and furnishing the health system (Makinde, 2015). However, as countries work

towards improving their health systems, especially through HIV scale-up, there are concerns being raised on whether the scale-up is really addressing the health system challenges or worsening the health system and overall service delivery (Biesma, Brugha, Harmer, Walsh, Spicer & Walt, 2009; Peters, 2009; Samb et al., 2009). There is a call for qualitative studies that look at the performance of both HIV and non-HIV services since the few studies that are available provide inconclusive an unconvincing findings (Duber, 2010; Price, 2009).

This study aimed at looking at the health systems within a high prevalent region facing the HIV scourge, the capacity of the health systems in service delivery after scale-up and the impact of the capacity in addressing other health needs that are not HIV related. The main question that the study attempted to answer was to find out whether HIV scale-up had impacted on the integration of non-HIV services into service delivery. This question was addressed by examining the impacts and factors, and determining the effects of HIV/AIDS scale-up on non-HIV priority services in Nyanza Province. This gap is justified since properly financed and sustained systems are required in ensuring universal and quality access to health care by the population.

1.3 Study Aims

1.3.1 Overall Aim

The overall aim of this study was to assess the impact of HIV/AIDS scale-up on non-HIV priority services in Nyanza province, Kenya

1.4 Objectives of the study

1) To determine service delivery trends of non-HIV priority services in health facilities where there has been rapid scaling up in the delivery and coverage of HIV services in Nyanza province.

2) To determine whether scale-up of HIV/AIDS services has a beneficial or detrimental effect on other non-HIV priority service delivery and coverage in Nyanza province
3) To identify the elements that characterize HIV programs that has successfully enhanced non-HIV service delivery and outcomes in order to advise health policies in the improvement of primary health care.
4) To determine perceptions, attitudes and experiences of facility personnel towards HIV/AIDS scale up
5) To develop a model of indicators for service delivery in HIV/AIDS scale-up

1.5 Significance of the study

The study expects to contribute in a number of ways to the body of knowledge in the field of health research. The major areas of contribution are:

- From the theoretical perspective, the study examined the WHO framework theory that consists of six building blocks in order to clearly understand the relationship between HIV scale-up and health systems strengthening through the eight blocks and thus present views on a framework for service delivery of both HIV and non-HIV services within health the system. Explicitly, the study looked at theories and implications for the service delivery, health workforce, health information, leadership and technology factors related to scale-up.

- The conceptual plan proposed in the theoretical model is validated with data generated from the study and hence validating the variables within the theoretical model. Simultaneously, qualitative information provides support to the perceptions and experiences from the health workforce and key informants with some new insights.

- The study contributes to the literature by including data generated from the three counties into practical generalizations of the findings and proposing gaps in policy that are significant and can be addressed. Therefore, the study findings will help the ministry of health and county government in determining the approaches to be used in improving integration of HIV and non-HIV services through health system strengthening, and also identify the strengths and weaknesses within the county health facilities and close the gaps.

- Finally, this study adapted the existing variables and blocks within the WHO framework and went ahead to propose some more ways and measures through a model of indicators to attain the goal of sustainability and universal access to health care for all.

Further details of these contributions are discussed in Chapter 5.

1.6 Operational definitions;

- **Impact** in this study looks at whether the HIV program is working or not, whether it is assisting in decisions about scaling up and how it contributes to other non-HIV priority services.

- **HIV Services** are those services that directly target people living with HIV.

- **Scaling-up** - Scaling up in this study means increasing health related services and activities in large quantities to improve the system and peoples' health. The variables involved in scaling-up include inputs, activities, outputs, outcomes and finally impact.

- **non-HIV services** in this study describes the health services that are not HIV related, and focus mostly on the three health MDGs which have a strong service-specific or disease-specific focus, namely: maternal and child health, malaria, HIV and tuberculosis services.
- The **mother-to-child transmission (MTCT)** of HIV refers to the transmission of HIV from an HIV-positive woman to her child during pregnancy, labor, childbirth or breastfeeding.
- **Service delivery** in this study include delivery of effective, safe, quality personal and non-personal health interventions at the health facilities to those that need them, when and where needed, with minimum waste of resources; availability of resources and adequate infrastructure and equipment upgrades.
- **Health facilities** in the study comprise of all government owned facilities that offer health related services (referral, district and sub-district hospitals, health centers). They are managed by the county Health Management Teams on behalf of the Government of Kenya.

1.7 Thesis Outline

Essentially, this thesis is presented following the structure of the doctoral thesis as recommended by Perry (1998). The study begins by outlining the global view of HIV scale-up and funding issues that leads to the focus of the research issue, *i.e* non-HIV priority services. The conceptual framework in this study was developed based on the available theory and literature on HIV scale-up and health system strengthening. The overall outline as well as organizational design of this thesis is discussed in this section. The thesis comprises six chapters and each of the chapters is introduced as follows.

Chapter 1: Introduction explores the concept of HIV scale-up and funding, research background and literature, study rationale, research question, objective of the research, scope and significance, expected contributions and limitations of the study.

Chapter 2: Literature review focuses on six major dimensions which combine the global overview of the theories and concepts of HIV scale-up and the MDGs, general literature review of HIV and non-HIV service delivery in different types of studies, service delivery and health system strengthening, benefits and challenges of scale-up and service integration, key elements within HIV scale-up and health systems strengthening and review of the identified experiences related to the uptake of scale-up and service delivery of both HIV and non-HIV services from perspectives of different facility personnel and key informants. It also includes a conceptual framework and model with hypothesized relationships and a framework for conceptual insight to explore the unfolding health system variables and their development process based on both quantitative and qualitative data. A model of scaling-up and sustaining health care integration within HIV and non-HIV services has also been proposed and relationships of achieving success described.

Chapter 3: Methodology of the study covers all the relevant issues of the quantitative and qualitative research approaches followed in this study. It includes the rationale for the qualitative and quantitative approaches for this study, population and sample, selection of key informants and health facility managers, research instrument, quantitative and qualitative data collection, , quantitative data analysis procedures, analytical approach of qualitative data and ethical considerations.

Chapter 4: This section presents the quantitative and qualitative findings of the study. The sample profile of the health facilities, in-depth and facility staff interviews, and results of the health facility analyses are presented. The sample profile details the sample demographics, response rate, data cleaning and descriptive statistics. To further address the study objectives, both qualitative and quantitative data are further explored and presented.

Chapter 5: It provides a discussion in reference to documented literature on the overall findings of both the qualitative and quantitative data generated from the study.

Chapter 6: the section provides the conclusion, limitations and recommendations observed from the study and its findings. It generally gives a brief conclusion and limitations of the study, and further looks at the implications of study findings and areas for further research, including recommendations.

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1 Introduction

The main purpose of this chapter was to review literature related to the impact of HIV scale-up on non-HIV priority services. An extensive literature search was conducted to look at evidence that is available on HIV scale-up, service delivery of both HIV and non-HIV services within health facilities, and its impact on the entire health system. Other areas of literature search included a review of key websites like WHO, UNAIDS, PEPFAR, GFATM, Kenya AIDS indicator survey (KAIS) among others. The chapter also performed a critical review of work from various HIV scholars and researchers, public health science experts and researchers in an effort to try and understand the impact that HIV scale-up has had on delivery of non-HIV priority services. The entire literature review focused on the study objectives and their relationships with each other looking at evidence globally, regionally and locally. The literature review has been divided into seven pillars, each of them identifying gaps and providing solutions that can be incorporated into policy as mechanisms of monitoring, evaluating and sustaining health system capacity in relation to HIV scale-up and service integration. Theoretical and conceptual frameworks are also discussed in this chapter with the aim of proposing recommendations through a model that can be used to improve the overall health system and universal access to healthcare. The seven pillars of the study are presented below;

2.2 Global Overview of HIV scale-up and the Millennium Development Goals (MDGs)

HIV/AIDS is a global health concern that has contributed to a lot of concentrated efforts and changes in trying to expand and scale-up HIV programs especially in treating those people living

with HIV/AIDS with an effort to reducing morbidity and mortality. However, the need to ensure that everyone accesses health care has put a lot of strain on the health systems in SSA, a region that is already overburdened with different challenges globally (Muhammad, 2011). Therefore, despite the efforts in scaling-up health services, several gaps still exist within the health systems, and top on the list is funding challenges, weak health systems (Mangham and Hanson, 2010) followed by human resource constraints (Pre-Conference Meeting of Health Systems Experts & HIV Researchers and Implementers, 2009). These challenges have been found to impact negatively on health care access and service delivery, especially for non-HIV services (Sprague, Chersich & Black, 2011). However, the efforts seen so far in scale-up of HIV programs have contributed to an overall improvement in areas like strong leadership and management, realistic financing, local implementation and monitoring processes, and technical innovation were shown to be common characteristics of successful large scale health programs (Topp, Chipukuma, Chiko, Matongo, Bolton-Moore & Reid, 2013).

As presented before, there are eight MDGs that were established in the year 2000 by global health leaders in different countries, to address development and poverty eradication (United Nations, 2015a). The health sector had a representation of three MDGs that focused on reducing child mortality-MDG 4; improving maternal health-MDG 5; and combating HIV/AIDS, malaria and other diseases-MDG 6. Most of these targets were met by governments of the different countries but the most notable challenge reported during the implementation of these targets included health system challenges and their performance (Reich, Takemi, Roberts & Hsiao, 2008). Efforts in strengthening the health care systems have been made by major donors like GFATM and GAVI through provision of funding support in specific disease programmes, however they equally face substantial challenges in sustaining their efforts, and this calls for

continuous sensitization in developing disease-specific approaches that aid in strengthening these health systems The ambitious MDG goals have been achieved partly and more effort is needed in ensuring that the health related MDGs are fully met, and this is only possible through scaling-up HIV programs and integrating health care services.

Prevention of mother-to-child transmission (PMTCT) in SSA, especially the Eastern and Southern Africa is important in the elimination and reduction of HIV incidence among children. The WHO estimated that there were around 330, 000 new HIV infections among children globally, and approximately 55% of these new infections and deaths took place in the Eastern and Southern African regions (WHO, 2011).

A study by Kuria (2011) reported that Kenya had so far made adequate progress in implementing and realizing these goals, but poor performance has been reported in the attainment of some goals such as improving maternal and child health to help reduce morbidity and mortality. Stakeholders should come together and support the government by working together in addressing these gaps (Kuria, 2011). Some gaps include insufficient human resource capacity where health care workers are overburdened in resource limited settings and are therefore forced to offer poor quality and inadequate services, there is an urgent need and call to health stakeholders to ensure that health care workers are furnished with every resource they need in proper service delivery to pregnant women and ensure that they deliver safely (World Bank, 2014).

In addressing the fourth MDG of reducing child mortality by the year 2015, the Kenyan government indicated great support by increasing immunization coverage in health facilities by over 80% in 2011, thus contributing to an improved health care system, access and prompt

service delivery (UNDP, n.d.). This saw a rise in coverage for immunization services from 75% in 2007 to 86% in 2009 (Ministry of State for Planning, 2013). Through HIV scale-up, there has been rapid coverage of treatment options of children through services like PMTCT, however there is need to continue these efforts of improving treatment coverage among children by further considering more integration options through which children can benefit from most, and this includes considering options such as integrating early infant diagnosis of HIV at various treatment and entry points for child health and care. For example, in Lilongwe, Malawi, the proportion of infants who received HIV testing was seven times higher at an immunization clinic than at a government "under-five" clinic (Lowrance et al., 2008).

Malaria has been the leading cause of morbidity and mortality in Kenya for some time now, with a prevalence rate of 20%. The disease is most prevalent among pregnant women and children who are under five years old, and it's mostly endemic in the western regions of Kenya with a prevalence of 42% representing 2,268,470 cases of the disease (www.internewskenya.org). It basically accounts for around 30-50% of all outpatient attendance and 20% of all admissions in health facilities within the region (www.kemri.org/malaria), and by 2013 it had accounted for 20% of all deaths in children under five (Pathania, 2014). Kenya has made substantial progress in combating malaria, especially after the establishment of the MDGs and through major donors like GFATM, WHO, UNICEF and other partners (United Nations, 2013). Kenya is listed among the 22 highest TB burden countries (www.tbcare1.org/ken), it ranks 13 globally according to the WHO global TB report 2010 (WHO, 2010). The high TB burden is linked to the high HIV prevalence noted in the country, and worse for the region under study. The WHO report in 2011 presented that over 41% of TB infected patients in the country were HIV co-infected (World Health Organization, 2011a). In combating TB, efforts are needed to ensure that management of

HIV/TB co-infected patients is closely integrated within the health system in ensuring that these patients are easily accessed, treated and managed properly.

2.3 The Need for Greater Clarity on HIV scale-up and Health Systems Strengthening (HSS)

An effective revolution in the HIV prevention response will only be achieved when HIV prevention becomes everyone's business. HSS involves identifying issues that interfere with the provision of services and introducing system changes that result in sustainable improvements (Franzen, Chandler & Lang, 2017). The scale-up of HIV programs and health system strengthening (HSS) are closely interlinked, thus leading to numerous debates on their impact and sustainability, however there is limited data to address these concerns and efforts that have been made so far (Schneider, Blaauw, Gilson, Chabikuli & Goudge, 2006). The rise in HSS needs and funding commitments indicate the need of developing standard policies that recognize integration of all programs within the health system and health facilities (Sundewall et al., 2011). Integrating HIV interventions into health services such as immunization, Sexual and Reproductive Health or MNCH offers a unique opportunity to reach more women, children and families with a comprehensive package of effective interventions for HIV prevention, treatment and care (Population Reference Bureau). Expand access to combination prevention HIV interventions, especially in high HIV burden areas through existing health systems and routine health-care delivery mechanisms in order to reach the largest number of persons at-risk (Population Reference Bureau).

Shiffman and others (2009) raised several concerns relating to donor funding for HIV scale-up, seeking to know whether HIV scale-up had benefited other non-HIV programs (Shiffman, Berlan & Hafner, 2009). The major concern noted between 1998 and 2007 was when donor funding for

HSS was cut by over half, whereas HIV scale-up funding rose by over half within the same period, further raising concerns on how health priorities were classified and funded (Shiffman, Berlan & Hafner, 2009).

Aside from financial support by the governments and donors, political will plays a huge role in strengthening health systems. This support by politicians has been found to contribute in increasing a lot of attention and focus in building stronger health systems thereby motivating other local and global partners to strengthen their collaborations and coordination in meeting the goal of improved health systems (Levine & Oomman, 2009). This approach has worked greatly in increasing overall efficiency and effectiveness of scaled-up HIV programs internationally (Sundewall et al., 2011).

A comprehensive approach in HSS would not only require the concentration of prevention efforts in high HIV prevalence areas but overhaul coverage of the country. Though it is obvious that some areas/ regions are more affected than others, it is also true that the areas have not been necessarily neglected when it comes to HIV prevention efforts. Much of the inequalities in HIV/AIDS infections have to do with specific characteristics of the regions and not a lack of prevention programs. For example, Nyanza and western parts of Kenya have most of the deep rooted cultural practices that favor the spread of HIV. Similarly, fishing, which has been identified as an industry that promotes spread of HIV spread is the main source of income in these regions (Mwandi et al., 2011). It is therefore necessary that prevention efforts are intensified in most regions of the country, especially addressing the underlying social, economic, cultural and political factors that promote the spread of HIV.

2.4 Service delivery and population coverage trends of non-HIV priority services and HIV scale-up

2.4.1 HIV Burden

Service delivery in the existing health facilities in SSA is facing a huge burden due to the HIV epidemic and the efforts in place in scaling-up HIV programs. The quality of health care in sub-Saharan Africa has improved in the past five years. However, progress is still substantially below the expectations of the people (Makinde, 2015). Notable significant changes brought about by these efforts have been observed in the uptake of inpatient and outpatient services in different regions parts of the world. A study by Siegfried et al., 2011 found a drastic reduction in mother-to-child transmission through the initiation of antiretroviral therapy among pregnant women who were diagnosed with HIV before or during pregnancy, and subsequently this led to the inclusion of routine HIV testing in antenatal screening programmes in many European countries (Siegfried, van der Merwe, Brocklehurst & Sint, 2011).

Another study conducted in the US found that HIV infected patients spent longer days, in hospitals compared to those who were uninfected who spent less days, leading to limited bed capacity within the wards thereby forcing the health facilities to expand their bed capacity and counselling points due to the growing demand for HIV related health care needs (Mohareb, Rothman & Hsieh, 2013). The downside of these efforts is that they create gaps in other areas of service delivery such as increased workload, staff turnover and task shifting among others.

It is true therefore that the HIV/AIDS epidemic has strained the health systems in several health facilities in countries such as Kenya and other resource limited settings where more than half of the hospital patients are HIV-infected (McNairy & El-Sadr, 2012). These data are often

presented by health experts who are more concerned by the fact that HIV/AIDS epidemic is straining health systems in regions such as in SSA (Bellagio Conference White Paper, 2008). This further complicates the efforts that are in place to address the problem.

2.4.2 HIV and non-HIV service delivery

Several reports have documented the benefits of HIV scale-up on the health system, especially in the delivery of other services that are not HIV related, such as sexual and reproductive health, TB treatment and management, malaria, child health among others. Some other added benefits of scaled-up HIV programs on service delivery have been reported on the rise in health-seeking behaviors and/or help among the populations that are affected (Bellagio Conference Report, 2008). One study conducted in Cambodia found that loss to follow-up rates among HIV, diabetes and hypertension co-infected patients dropped after 24 months of care, these three services were integrated into one and patients were impressed by the opportunity of a 'one stop shop' in their health care delivery (Janssens, 2007).

Leveraging scale-up through HIV programs and Health System Strengthening (HSS) is highly possible, the focus should be in integrating health services so that they rely or depend on each other, improving health facility infrastructure through renovations of buildings and systems, building on the health workforce, enhancing efficient and effective data management through continuous monitoring and evaluation practices and engaging positive leadership. Through this, patients, especially people living with HIV, and the community as a whole will be more empowered to access and uptake these services (International AIDS conference Pre-Conference Meeting of Health Systems Experts, 2009).

Several other studies have reported on successful cases of HIV and non-HIV service integration within their countries, for example, a study in Rwanda found that there was an increase in the use of the health facilities for non-HIV service care after integration of HIV into the different health packages (Daftary & Padayatchi, 2013; Price, 2009; Topp, Chipukuma, Chiko, Matongo, Bolton-Moore & Reid, 2013). Several studies have also shown the feasibility of HIV/TB leading to a 60% increased chance of co-infected patients being started on ART, thereby reducing time to ART initiation averagely by 72 days. This therefore shows that integration of these two diseases within regions having high HIV/TB prevalence would shorten the ART initiation time and eventually reduce morbidity and mortality rates within these regions (Jacobson, Moll, Friedland & Shenoi, 2015; Mabunda, Ramalivhana & Dambisya, 2014; Owiti et al., 2015). In 2008, a number of key informants interviewed by civil society researchers reported that awareness creation in the community and population had increased through HIV scale-up such that most people were more aware about their sexuality, general health and rights (International Treatment Preparedness Coalition, 2008). Therefore, as scale-up of HIV programs takes place, the emphasis should be placed on ensuring that health services continue to be delivered in an efficient, effective and sustainable manner in order to benefit everyone and strengthen the entire health system (UNAIDS, 2013c).

2.5 Benefits or detriments of HIV scale-up on non-HIV priority service delivery and coverage

There are mixed opinions from health experts on whether HIV scale-up has benefited or worsened the health system and service delivery, however insufficient data exists and cannot be used to back either view. It is therefore important that all implementation activities are adequately monitored to assess progress in scale-up and service integration. This is one of the

neglected areas in assessing HIV scale-up. The WHO report (2013) reported the challenges experienced by both developed and developing countries in scaling-up of HIV services, one of the greatest challenge faced is insufficient human resource capacity where few staff are required to attend to huge workloads (World Health Organization, 2013). Health systems that fail are the greatest enemies to scaling-up interventions that can lead to the achievement of the Sustainable Development Goals (SDGs) and make it a reality (World Health Organization, 2010a). For example, a lot of pressure has been mounted in ensuring that HIV scale-up does not fail, even if crisis such as human resource capacity are not addressed (WHO, 2007). Some regions that are heavily affected by HIV/AIDS have found better ways of addressing their human resource challenge (Muhammad, 2011). Zambia, for example, employs a five year framework that guides them in building capacity for staffing within their health system, and Malawi has likewise developed a 10-year strategic plan to build human resources for health. Botswana has commissioned a health workforce planning process that expressly integrates strategies for HIV/AIDS and the broader health system through 2016 (Bor, Herbst, Newell & Barnighausen, 2013; Kinghorn & Cairney, 2008).

One benefit that has been observed in HIV scale-up is service integration with HIV and other services, for example integration of ART services into TB management has prompted for better use of health facilities in ensuring continuity of care (Bellagio Conference Report, 2008). Integration of HIV services into reproductive health services has also created awareness among the population in understanding their own sexuality and expanding the use of different health options, like increased demand for male condoms. In Côte d'Ivoire, it was reported that hospital deliveries rose and improved over time after scale-up, and integration of HIV services and PMTCT led to better outcomes in antenatal care (Delvaux et al., 2008). Other areas that have

benefited from scale-up include counseling and testing services for expectant women and provision of ART to women and their children in an effort to prevent the babies from acquiring HIV (UNAIDS, 2013a).

Other benefits are related to extensive health facility renovations including buildings and services that benefit both HIV and non-HIV infected patients (Institute of Medicine, 2008)since they are being used in the treatment and management of non-HIV health services too (International Treatment Preparedness Coalition, 2008) as reported by key informants in Uganda where HIV clinics were used in treating TB, malaria and other diseases clinics were also engaged in the treatment of malaria, diarrhea, tuberculosis and other diseases (Alliance for Health Policy and Systems Research, 2008; International Treatment Preparedness Coalition, 2008). This has seen the morbidity and mortality rates of TB and malaria drop significantly since 1990, the era of the MDGs and scale-up of interventions to address these two diseases (World Health Organization, 2015a). Global health partners like WHO and PEPFAR have exerted numerous efforts in addressing the human resource gap in service delivery, task shifting of services within workers has helped address this gap in most settings like Kenya, Uganda, Ethiopia, Zambia, Malawi and Mozambique (Samb et al., 2009; World Health Organization, 2007a). This approach I successfully being applied in delivery of both HIV and non-HIV care in resource limited (Lehmann, 2007) and several studies have shown that task shifting has led to improved rates of service delivery especially in child health and PMTCT programs by relieving undue pressure among the staff in performing their duties(Duber, 2010; Levine & Oomman, 2009).

The benefits and detriments to HIV scale-up in the health facilities vary and have contributed to better plans for addressing the human resource gap in ensuring adequate service delivery, however more efforts are needed in sustaining these short term responses.

2.6 Elements of HIV programs that have successfully enhanced non-HIV service delivery and outcomes

Successful scale-up of HIV programs requires investment in resources such as finances, human and infrastructure, especially in resource-limited settings (Garrett, 2007; Jaffe, 2008; Shiffman, 2008). There is overall lukewarm perception of HIV program scale-up in general, experts are concerned that scale-up of HIV programs is derailing the efforts made in delivery of other non-HIV services within the health facilities while others view the scale-up efforts as a way of strengthening the health systems, for example the human resource gap is being addressed using approaches such as task-shifting (International Treatment Preparedness Coalition, 2008; Rabkin, 2009).

In a meeting with several experts it was reported that numerous health initiatives for HIV scale-up have come up, especially pushing the service integration agenda forward so that health care is accessed by all at different service delivery points. The meeting also shared several experiences and lessons learnt through this massive scale-up initiative, the obvious challenge reported was on sustainability, especially after the donors pull away (Pre-Conference Meeting of Health Systems Experts & HIV Researchers and Implementers, 2009).

However, there is an opportunity in addressing this question of continuity and sustainability through teamwork, political will and national, regional, and local policy commitment within the government in ensuring that there exists effective, equitable and affordable health service delivery for its people (Reich, Takemi, Roberts & Hsiao, 2008).

The overall solution lies in integration of health services within the HIV scale-up program and assessing its impact overtime (Diese et al., 2016). However, as has been seen in this review,

service integration is more beneficial and viable for service delivery in resource limited settings, and it is more affordable and sustainable. Service integration within the existing health services has been shown to be successful within HIV and mental health issues.

(Kiima & Jenkins, 2010; Walton, Farmer, Lambert, Leandre, Koenig & Mukherjee, 2004), integration for HIV and cancer services (Can Treat International, 2010). Integration of HIV and child health services such as immunization is ongoing (Clements 2008), while successful reports of HIV and tuberculosis services integration have been shared (Ansa, Walley, Siddiqi & Wei, 2012; Loveday & Zweigenthal, 2011; Phiri et al., 2011), and integrating the control of different neglected tropical diseases (Topp, Chipukuma, Chiko, Matongo, Bolton-Moore & Reid, 2013). The challenges related to offering independent services as opposed to service integration include issues such as loss to follow-up, delayed service delivery, poor service delivery and long waiting times (Berwick & Luo, 2009).

The entry points of service integration need to be strengthened and accessible and hence should follow health facilities such as the health centers, VCT, PMTCT, hospitals, sexually transmitted infection (STI) clinics and TB clinics. The goal in scaling-up entire health care is to ensure that there is universal health care to all, whether rural or urban, to ensure there is equity (World Health Organization, 2011b).

2.7 Perceptions, attitudes and experiences of facility personnel towards scale up

Successful scaling up of HIV programs requires a committed team of people to implement. This team includes all the stakeholders like the governments, local and international community who contribute through evaluation of the key health systems and efforts required to push the service integration agenda forward (World Health Organization, 2010b). The most talked about

challenge in scale-up involves human resource capacity, also seen as the input and output for effective service delivery in resource limited settings. Health worker capacity is important in ensuring that the interventions meet the target required and are adapted based on the regions values and circumstances, at the same time identifying areas of improvement such as technical capacity and financial aspects for successful implementation. Such staffing issues mostly remain unaddressed in settings where the government has the entire power in running its health care services and show no political will in committing significant resources to improving its populations health (Biesma, Brugha, Harmer, Walsh, Spicer & Walt, 2009).

It is therefore important for a government and the stakeholders involved in scale-up to sensitize and provide continuous education and training to its staff to ensure targeted and appropriate health service interventions (Peters, 2009). A study conducted by Nyblade et al (2013) looking at people's attitudes found that people were only motivated to participate in certain activities based on their perceptions of their local surroundings and whether they are safe or pleasant (Nyblade et al., 2013). This highlights the significance of knowledge and attitudes of staff towards any change and also shows the importance of ensuring the health care workers are provided with resources that motivate them to conduct their work and improve on service delivery (Frenk, 2010; World Health Organization, 2007a).

Another area of focus relating to staff is their attitudes towards their patients, and the motivations involved in providing efficient and quality work, and these include issues such as job satisfaction and turnover (Lerner, Resnick, Galik & Flynn, 2011). Factors such as workload, work related stress and staff turnover contribute to the kind of attitudes the health workers have in delivering their work, especially making them feel less satisfied with their jobs, and it is therefore important that the health care workers are made to feel more knowledgeable and trained when there are

anticipated changes, in dealing better with their day-to-day challenges in order to improve their rates of job satisfaction (Dudley & Garner, 2011; Lerner, Resnick, Galik & Flynn, 2011). Although more limited in scope and quantity, other studies conducted within low and middle income countries have shown that staff attitudes impact on their patients and the quality of the care they provide to the patients (Ledikwe et al., 2013a; Nyblade et al., 2013).

Other studies have also shown that the attitudes of supervisors within the different service delivery points in the health facilities affect the care that the health facility staff provide to their patients and patients' outcomes (Cailhol et al., 2013; Mills, 2012). It has been shown that supervisors who are flexible, responsive, and collaborative to their staff allow for conducive working environments with high level of teamwork, open communication, shared goals, mutual respect and decision making among the staff (Tellis-Nayak, 2007) compared to health facilities that have got more animosity between the supervisors and staff (Tyler, 2011). Therefore the structure and functioning of the health system is important in ensuring a conducive work environment.

2.8 Models on indicators for service delivery in HIV scale-up

To ensure equity and sustainable health service delivery, there is need for strong health systems that are accessible, responsive and affordable to the entire population (WHO, 2010). This can only be achieved through adoption of policies that define the health systems needs including how the health services are planned, implemented and monitored to ensure successful scaling-up (Hardee, 2012).

Several efforts have been made by the different governments and their leadership in creating a working group that brings together institutions through different technical capacities and partners

from UNAIDS, WHO, PEPFAR through CDC and USAID, family health international, population council and international AIDS vaccine initiative. Their main goal was to develop a roadmap towards proposing a shift in HIV prevention (Global HIV Prevention Working Group). The U.S. government has supported a comprehensive approach to prevention in generalized epidemics in Kenya and many other countries through the President's emergency plan for AIDS relief. PEPFAR operates on the principle that treating people with respect by providing them with HIV prevention education and services is good public health (President's Emergency Plan For AIDS Relief, n.d). It fosters the value of personal responsibility that leads to healthy behaviors. Major health care funding bodies such as the Joint United Nations Program on HIV/AIDS (UNAIDS), PEPFAR and global fund have offered guidance and leadership in improving the quality and capacity of HIV care delivery globally through a set of core indicators that can be used monitor and evaluate progress in scaling-up (UNAIDS, 2008). The same donors have adopted and implemented a defined framework that uses the logic model measuring inputs, activities, outputs, outcomes and impacts for monitoring and evaluating national HIV programs in several countries in order to share feedback and results achieved (The Global Fund to Fight AIDS, 2009). By 2009, PEPFAR revised its monitoring and evaluation framework and allowing the host countries to have total ownership in identifying indicators that would help in addressing their needs in terms of health coverage and quality service delivery (PEPFAR, 2009). Several models have been proposed for scaling up service delivery through this joint group, and these include promoting safer sex practices, prevention through blood screening, increasing availability and access to counseling and testing, early diagnosis of sexually transmitted infections, expanding prevention of mother to child transmission of HIV (PMTCT) and targeted behaviour change communication. A few studies in Kenya that assessed HIV testing and uptake

strategies, utilization and effectiveness found that quality of services offered in health facilities had been strengthened, and there was in increase in voluntary counseling and testing uptake (Grabbe et al., 2010; Irungu, Varkey, Cha & Patterson, 2008; Wachira, Ndege, Koech, Vreeman, Ayuo & Braitstein, 2014). Several studies have looked at condom use and they found that condom distribution was successful in clinics and community based distribution and it remains a key strategy in the prevention of HIV and STIs (Center, Gunn, Asaolu, Gibson & Ehiri, 2016; Harris et al., 2011; Kalolo & Kibusi, 2015). Expansion of PMTCT through strengthening existing policies and structures that support PMTCT and its management system has been efficient, and there has been widespread increase in the access of ARVs for women who are pregnant and HIV positive from 10% to 60%. This has ensured that HIV positive mothers continue to get ARV treatment after delivery (Coovadia & Moodley, 2016; Kim, Ahmed & Abrams, 2015; Soubeiga et al., 2014).

Some factors that come to play in the implementation of these models and strategies include leadership and political will, as seen in a study conducted by Mwandi et al., (2011) which showed strong government leadership, program flexibility, task shifting, massive sensitization and a documented implementation strategy as the key factors in the rapid scale-up of voluntary medical male circumcision in Kenya's Nyanza province (Mwandi et al., 2011).

Addressing the challenges associated to HIV scale-up require delivery of new services through integration as has been shown, in addition quality improvement in the delivery of existing services through the quality improvement tool used in developed countries (World Health Organization, 2009). These HIV quality indicators target critical areas such as linkage to care, eligibility to ART, as well as important patient reported and clinical outcomes, and these are

mostly specific and dependent on the different donor requirements and can sometimes be challenging in providing feedback and measuring impact (Forster, 2008). For example, a study of data quality conducted by Foster, (2008) showed that 67% of the study sites received funding from two sources, and 24% from three (Forster, 2008) and found that only 61% of programs used the same software for data collection and management, hence creating a gap between measurement, clinical care and improvement, while increasing the cost and complexity of monitoring and evaluation (Forster, 2008). This is a clear report on how competing funding priorities impacted negatively on data collection and other indicators that are important in measuring outcomes thus challenging the efforts of identifying tools that are needed for stakeholder reporting and quality improvement.

Therefore, there is need to develop a set of indicators that measure both processes of care and key clinical and patient reported outcomes to guide improvement for HIV treatment programs. The measure concepts should be designed to address the limitations of current indicators described above, as well as utilization of this framework, along with utilization of this framework, along with the criteria of importance, usability, and feasibility (Ahonkhai, Bassett, Ferris & Freedberg, 2012). This study proposes to develop a model that has a set of indicators for both HIV and non-HIV service delivery implementation and contribute in solving the identified gaps from the research findings, more specifically to help in service quality improvement and sustainability, and eventually these can be compared across the different integrated programs to measure their performance in service delivery.

2.9 Theoretical framework

Delivery of health care within health facilities is influenced by several factors such as funding, training, staffing, leadership and several intermediate variables (Medlin, 2006; Sundewall et al., 2011). This literature review was primarily based on the six building block health system framework developed by WHO in 2007 (World Health Organization, 2007a) which provides a summarized view of the health system by describing the system, its objectives, its structural and organizational elements and/or its functions and processes in order to promote a greater understanding of what a health system is and what constitutes health systems strengthening. The WHO framework defines the health system in terms of the following six discrete "building blocks"; (i) service delivery; (ii) health workforce; (iii) information; (iv) medical products and technologies; (v) financing; and (vi) leadership and governance (Figure 2). The framework was important for this study because it assisted in providing a more comprehensive approach to HSS in the regions of study, by describing the current features of a health system in a snapshot, assessing the changes within a health system over time, identifying health systems strengths and weaknesses, identifying priority areas for assistance, and proposing thoughtful approaches to addressing the strengths and weaknesses found in the study and finally helping to trace the linkages between an integration initiative introduced to improve results, the elements of the health system that are impacted by the initiative, the gaps that remain and the ultimate impact of the HIV scale-up initiative. This study focused on these building blocks and assessed their impacts in relation to the study objectives looking at HIV scale-up on non-HIV priority services in three counties in Nyanza province.

The building blocks focused on three areas, namely checking for the desirable attributes in service delivery within the health systems, i.e. service delivery, health workforce, information, medical products/supplies, health financing, leadership and governance; secondly the attributes were further sub-divided to define the frameworks variables and finally, identification of service delivery gaps within the health facilities. This theory is best suited for this study because it addresses the impacts of HIV scale-up, through the building blocks on non-HIV priority services and therefore forms the basis of the conceptual framework as shown in Figure 3.

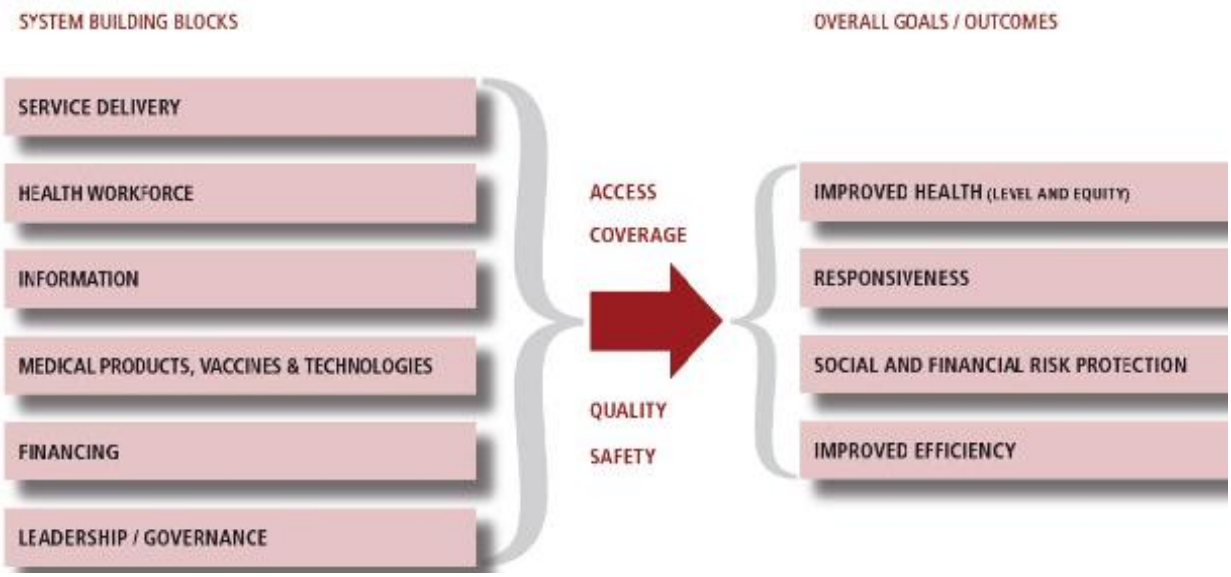

Figure 2: "Building Blocks" Framework

Source: WHO, 2007

2.10.1 Relationship between Variables in the Conceptual Framework

A conceptual framework is a model where a researcher represents the relationship between variables in the study diagrammatically (World Health Organization, 2007b). This framework gives an overview of the relationship between the variables and the relevance between the HIV scale-up programs and service delivery. This approach is similar to a health workforce framework by Yu et al., (2008) comprising of six processes namely, staff recruitment and selection, pre-service or in-service training, coaching/mentoring and supervision, internal management support, systems level partnership, and staff and program evaluation (Yu et al., 2008). The different processes within the frameworks are interlinked thus allowing for effective implementation of practices within the health system and organizational improvement (Blase, 2009). In this conceptual framework, it is perceived that there is a direct relationship between HIV scale-up (independent variable) and delivery of non-HIV priority services (dependent variable) in the different levels of health facilities. In this case, the delivery of non-HIV priority services depended on service delivery, governance, health workforce and health financing within the health facilities, also classified as the inputs. The success of the dependent variables depended on intervening and moderating factors such as those listed in Figure 3.0 below. The figure also shows the various factors associated with the delivery of non-HIV priority services as well as the subsequent consequences.

2.10 Conceptual Framework

INPUTS
Independent variables

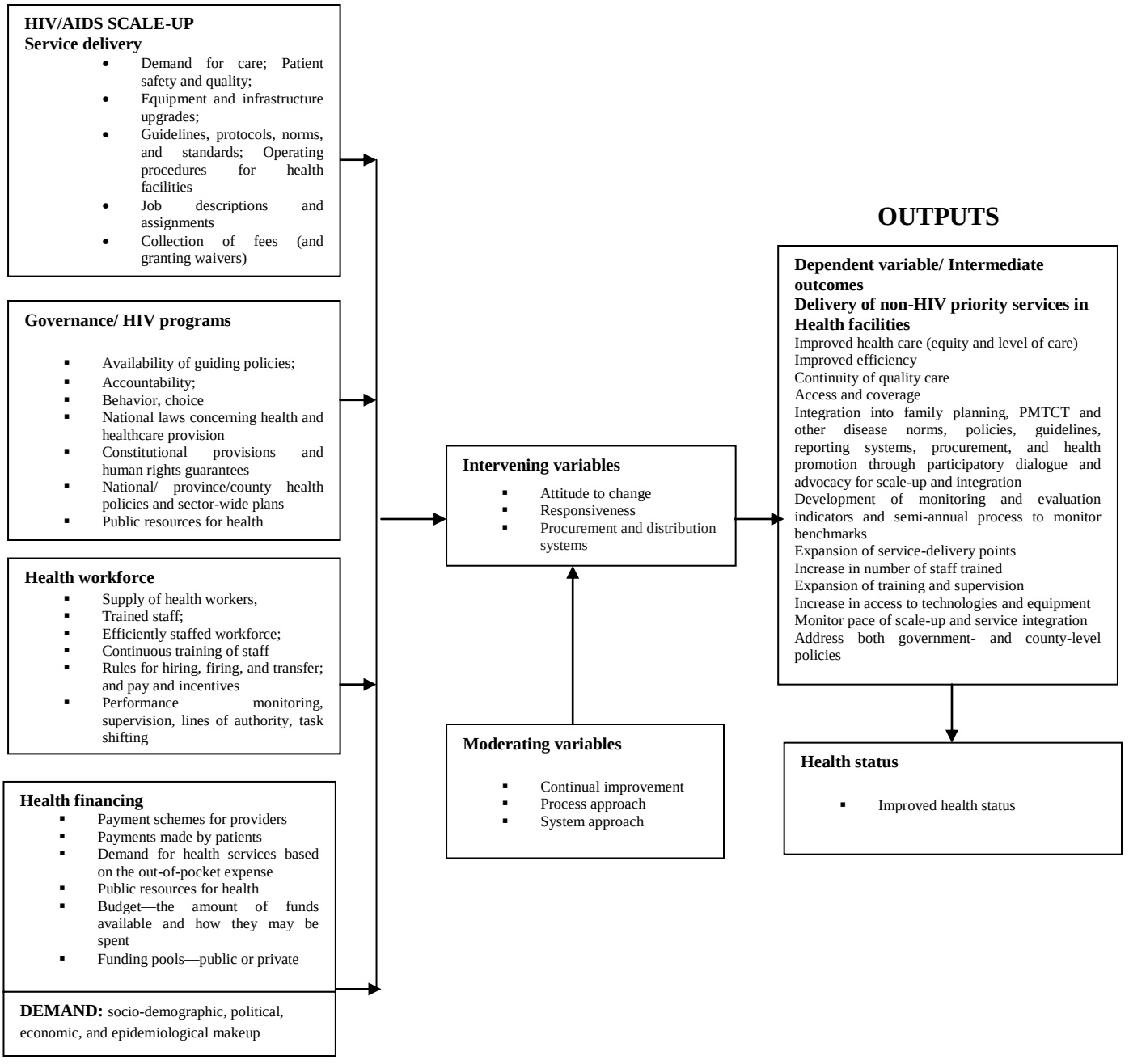

Figure 3: Conceptual Framework showing the possible independent factors associated with HIV scale-up and non-HIV priority services

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

The design of any research project should be defined by a clear analytical path and methodology based on the research objectives and the clear frameworks. This chapter describes the methods and procedures used in this study. Specifically, this research project examines effects of HIV scale-up through a quantitative approach and further strives to explore the story of the impact of scale-up from the perspectives of the staff and key informants within the field of HIV research. Therefore a sequential approach through the use of a retrospective review of chart records and prospective cross-sectional surveys using questionnaires and interviews informed the development of a proposed framework that could influence policy within the study setting and other settings.

3.2 Study design

Structured surveys using questionnaires and in-depth interviews (Tanser, Barnighausen, Grapsa, Zaidi & Newell, 2013) were used sequentially to gather both quantitative and qualitative data that describes the impact of HIV scale-up on non-HIV service delivery in Nyanza Province, in Kenya over two study periods. Both prospective and retrospective studies were required to achieve the aims and objectives of the study. The methodology for each part of the study will be described separately below.

3.3 Part 1: Retrospective study

This included a chart review of health facility records within three counties in Nyanza Province.

3.3.1 Study population and sample size

Objectives 1, 3 and 5 were approached through a retrospective study design. A review of anonymized patient record data in health facilities from the provincial health management information systems routine client records for the years 2009 and 2013 was undertaken. Three counties were purposively selected from the six counties in Nyanza province (Table 1).

Table 1: Population and HIV prevalence for Kenya and each county of Nyanza province

Country	Province	Counties	Population	Prevalence of HIV
Kenya			44.35 million	5.6%
	Nyanza		5,442,711	15.1%
		Homabay *	1,053,465	**27.1%**
		Migori	1,028,579	13.4%
		Kisii	1,152,282	8.9%
		Nyamira*	653,914	**6.9%**
		Siaya	842,304	17.8%
		Kisumu *	1,059,053	**18.7%**

* Selected counties for the study Source: NASCOP (2013)

Kenya has 42 counties and nine provinces with an overall HIV prevalence of 5.6%. Nyanza is one of the provinces, and it has six counties with HIV prevalence rate of 15.1%, the highest in the country. Three counties within Nyanza province were selected for this study, namely; Kisumu, Homabay and Nyamira. Kisumu County was selected because it is the capital of Nyanza province. The other two counties were those with the highest HIV prevalence in the province (Homabay) and that with the lowest HIV prevalence in the province and rural (Nyamira) (Appendix 8). Contextually, the rationale for selecting the province was that the

researcher herself is a native of Nyanza, which has facilitated easy access to the Province's health data sources. The selection of the sample was guided by the nature and objectives of the study, cost and the time available.

3.3.2 Sampling

Proportionate stratified random sampling was used to select the participating health care facilities within the three counties. The rationales for using this sampling strategy were to increase precision without increasing cost and to reduce the sample variation. According to Kothari (2007) stratified random sampling involves selection of elements from each of the population strata. It is used when the researcher wants to highlight a specific subgroup within the population (Kothari, 2007). Each stratum included the same character of interest that facilitated the systematic random sampling procedure (Denzin, 2012). This was useful in this study because it ensured the inclusion of the key subgroups within the sample, for example rural and urban facilities, marginalised and easily accessible health facilities among others. This type of sampling was also important since it allowed the researcher to capture the relationships within these groups and hence ensuring external validity.

From the three counties, health facilities at different health care levels were selected based on discussions with provincial and County Health Management Teams (CHMTs) (Table 2), and a total of 73 government health facilities that were part of the retrospective study were selected for the survey (Table 3 below). The sample included health facilities of different levels including the provincial Teaching Hospital (JOOTRH), District, sub-district and health centers formed the strata. Only government-owned health facilities were included in this study and any health facilities providing outreach services and private for-profit facilities were excluded from this

study. The proportion for each subgroup (strata) was half i.e. 0.5 of the sample frame and in cases of odd values the number were rounded up as summarized in Table 3 below. The facilities were then picked at random within the stratum e.g. 10 sub-district hospitals were randomly selected from the pool of 20 sub-district hospitals.

Table 2: The different types and numbers of health care facilities in each county which constituted the population of facilities from which a random proportional sample was drawn for inclusion for the study

Country: Kenya	**HEALTH FACILITIES IN THE THREE COUNTIES**							
Province: Nyanza		County	Provincial Hospital	District Hospital	Sub-district Hospital	Health centers	HIV Prev (%)	**Total**
Levels:	Districts							
		Kisumu					18.7%	
Districts	Kisumu East		1	1	3	10		**15**
	Kisumu West			1	2	3		**6**
	Muhoroni				2	3		**5**
	Nyakach			1	1	4		**6**
	Nyando				2	3		**5**
	Totals		**1**	**3**	**10**	**23**		**37 (26%)**
		Homabay					27.1%	
	Homabay			2		10		**12**
	Mbita			1	1	8		**10**
	Ndhiwa				1	3		**4**
	Rachuonyo North				2	6		**8**
	Rachuonyo South				1	5		**6**
	Suba				1	6		**7**
	Kasipul kabondo				1	7		**8**
	Totals			**3**	**7**	**45**		**55 (39%)**
		Nyamira					6.9%	
	Borabu				1	7		**8**
	Manga			1	1	6		**8**
	North Masaba				1	4		**5**
	Nyamira				1	15		**16**
	Nyamira North					14		**14**
	Totals			**1**	**4**	**46**		**51 (35%)**
Totals			**1**	**7**	**21**	**114**		**143**

Table 3: Sample size selection using proportionate stratified sampling of health facility levels in the three counties chosen for inclusion for retrospective record review

Stratum	**PH**	**DH**	**SDH**	**Health centers**
Population size	1	7	21	114
Sampling frame	½	½	½	½
Final sample size	1	4	11	57
Total	**73**			

Key:

PGH – Provincial Hospital

DH – District Hospital

SDH – Sub-district hospital

3.3.3 Study instrument

For the retrospective chart review, a data sheet (Appendix 4) was developed to capture the information required. The advantages of conducting chart reviews include: 'a relatively inexpensive ability to research the rich readily accessible existing data' (Li, Wu, Wu, Zhaoc, Jia & Yan, 2007); easier access to data, study of rare incidences; and most importantly, the generation of hypotheses that would then be tested prospectively (Duber, 2010). However, the limitations of the chart review include issues like incomplete documentation, unverifiable information, difficulty in interpreting information found in documents (e.g. jargon, acronyms, photocopies) and difficulty in establishing cause and effect, and variance in the quality of information recorded by medical professionals (Rachlis et al., 2015; Sutcliffe, van Dijk, Hamangaba, Mayani & Moss, 2014). This chart review sheet was developed based on related systematic review of the literature applicable to the study, conditions, demographics, criteria, and populations, and the variables included in the tool were related to the aims and objectives of the study. An exhaustive literature review provided the required background and illuminated how

key concepts and variables were developed in the study instrument. To ensure that the data sheet was valid, seven data sheets, representing 10% of the sample size, were piloted in one of the neighbouring counties in the province. Nachmias and Nachmias, 1996, defined pilot testing as an important process in research used to reveal vague questions and unclear instructions found within the research instrument (Frankfort-Nachmias, 1996). The pilot exercise was grouped under three broad classifications - process, resources and management whereby process focused on areas such as eligibility criteria; resources looked at length of time to fill out the data sheet and study site willingness and capacity while management looked at challenges in managing the study and data variability. Through the pilot, difficulties related to the process, which had a negative influence on the data collection were identified, for example, found that two aspects of the data sheet were neglected during the pilot because of a lack of time, this was mostly attributed to poor flow diagram. This piloting exercise helped to improve the instrument by deleting and including information that would ensure complete data collection. Based on the results of seven pilot sheets the chart review was further refined and a clear flow of variables designed. This included rewording some questions for greater clarity and rephrasing others into questions that were clear (Appendix 4).

In this study, the chart reviews were used because they are best suited to provide immediate information on basic health infrastructure and service availability within the health facilities; they are quick and relatively affordable and were easily adapted to focus on HIV and non-HIV services within the different health facilities. The chart review was used to collect information on the type of facility, the managing authority, and anonymized patient record data among other indicators. Patient identifiable data were not needed in this study, and therefore the researcher

collected anonymized data and made an extra effort to remove any potential identifying information.

3.3.4 Study Procedure

Approval was obtained from the relevant institutional ethics review committees and the necessary permissions from the data collection sites and authorities (Appendices 9 and 10). In Kenya, the government provided facility reporting systems are usually used to monitor service delivery. Data generated at the health facility level included key outputs from the regular reporting systems, services provided and treatments administered. Data collected at the Provincial Health Management Information Systems (PHMIS) office, included health services distribution and records of HIV and non-HIV services within the selected facilities of the three counties. The HIV and non-HIV services within the study population focused mostly on the three health MDGs which have a strong service-specific or disease- specific focus, namely: maternal and child health, malaria, HIV and tuberculosis services. Primary data was generated from inspection of health records at the facility, county and PHMIS offices on HIV scale-up performance relating to delivery of non-HIV priority services. These data were important in determining service delivery and coverage trends of both services within these health facilities.

3.3.5 Data Analysis

Data was analyzed using the Statistical Package for Social Scientists (SPSS) version 22.

Descriptive analysis, i.e. socio-demographic characteristics involved reporting of frequencies for categorical data, median (with interquartile range)/ mean (standard deviation) for continuous variables. Baseline differences in relation to the outcome were assessed using chi square, t-test or

Wilcoxon tests depending on the variable type and distribution. All statistical tests were considered significant if the two-sided P-value was <0.05.

3.4 Part 2: Prospective cross-sectional survey

Design: Two prospective descriptive cross-sectional surveys on facility staff and key informants (described below) were used to achieve objectives 2 and 4. According to Corneli et al., 2014, descriptive studies are used to study the relationship between different variables at a point in time, and to collect information about peoples' attitudes, opinions, habits or any variety of social issues (Corneli et al., 2014).

3.4.1 Study population

The population included key health informants and health care facility staff. As highlighted in this study and literature review, it was imperative to select appropriate knowledgeable key informants who were engaged within the field of health research (Cypress, 2015) through verification of their relevant details. The criteria used to select the key informants included complete and specialized knowledge regarding the information sought and possible shared interest in the study. Such key informants had qualities such as direct involvement in HIV service delivery activities, had first-hand knowledge about the province and its health services, its residents, issues on HIV and non-HIV services that were under investigation, had experience with research in the region and in dealing with the ministry of health within the government and donors from foreign NGOs. Keeping these qualifications in mind the key informants selected for this study were knowledgeable and closely linked to the province, and were also actively involved in important decision-making process within the province. These senior informants

were found to be more reliable and thus allowed for collection of standardized information across the counties (Baillie, 2015).

3.4.2 Sampling

The target population for the qualitative study was health facility managerial staff and key health informants within the health facilities in the three counties (Tables 4 and 5).

3.4.2.1 Key informants

As noted in Green (2013), 'effective key informants are individuals who have broad knowledge of the research setting or deep knowledge of an important aspect of the research…. Most often they have gained their knowledge by virtue of their position and experience in the community, their established networks of relationships, their ability to express themselves orally, and their broad understanding of their community' (Green, 2013). The sampling for key informants and health staff was purposive and it involved selection of health experts in the selected counties of the province who included HIV, Malaria and TB researchers and heads in the counties, academic experts in the field of public health and experts in health workforce issues in resource-limited settings. The key informants were found through the investigators own personal network of contacts in the province and county offices. A total of ten informants were targeted, the researcher reached out to all of them.

Table 4: Selection of key informants

Counties	**Target population**	**Sample size**
Kisumu	4	4
Homabay	3	3
Nyamira	3	3
Total	**10**	**10**

3.4.2.2 Health facility managerial staff survey

Health facility staff from the sampled facilities in part one of the study formed the study sample. A purposive sample of 103 health facility managerial staff offering any aspects of HIV diagnosis, care, treatment and management were purposively selected and invited to participate in the survey. One staff was selected from each facility that was well resourced, >10 health facilities per level of service delivery while two staff each were selected from facilities that were poorly resourced, <10 health facilities per level of service delivery. To be considered for participation the staff members had to be willing to consent to participate, were holding leadership positions within the health facilities and had worked at the health facility for more than one year prior to data collection. In addition the individuals must have had experience in the delivery of HIV and non-HIV priority services.

Table 5: Proposed numbers of facility managerial staff in the three counties chosen for inclusion in the cross-sectional study

Province	Counties	Target population	Study health facility levels	Sample size
Nyanza	Kisumu	20	PGH	1 facility X 2 staff =2
			DH	3 facilities X 2 staff =6
			SDH	6 facilities X 2 staff = 12
			HC	10 facilities x 1 staff = 10
	Homabay	24	DH	2 facilities X 2 staff =4
			SDH	11 facilities X 1 staff = 11
			HC	11 facilities X 1 staff = 11
	Nyamira	29	SDH	7 facilities X 2 staff =14
			Health centers	22 facilities X 1 staff =22
Total				**103 staff**

3.4.3 Study Instrument

For the key informants, a semi-structured interview schedule (Appendix 5) was used to address the study objectives. The key advantages of the instrument are that it is less invasive to those being interviewed since the semi-structured interview encourages two-way communication (Goodell, Stage & Cooke, 2016). Several strategies were implemented in ensuring that the study met standards of rigour required in qualitative research (Hadi & Jose Closs, 2016). The researcher used well-established research methods, member checking and debriefing in ensuring study credibility took place (Morse, 2015). Member checking was used during the course of the interview, this was through the researcher reflecting back on participants' responses to confirm for accuracy in interpretation (Birt, Scott, Cavers, Campbell & Walter, 2016). Debriefing sessions assisted in maintaining researcher impartiality during conduct of the research, thereby enhancing trustworthiness of data collection and analysis (Hadi & Jose Closs, 2016).

In ensuring dependability, a digital recorder was used for the interviews and the pilot interviews were submitted to the research advisor for peer review. This submission to a reviewer provided an opportunity for critique of method and for challenging of assumptions (Morse, 2015). In order to maximize on data accuracy, the interviews were recorded and transcripts reviewed for errors (Cypress, 2015). Study confirmability depended on reflexivity and the articulation of researcher positionality. The awareness of the investigator's central role in shaping the research process and the need to be explicit regarding one's background and perspectives in relation to the research at hand (Baillie, 2015), was a constant challenge during this study. Participants' demographic information were collected to ensure that transferability of the study findings applied, and this was done through provision of study setting description and through the use of thick and rich description for purposes of transparency (Williams & Morrow, 2009). To ensure reliability, interviews were audiotaped and few notes captured in a notebook by the researcher during the interview. The interview schedule explored questions on HIV scale-up and service access and delivery, service integration of HIV and non-HIV priority services, as well as challenges and benefits of scale-up and integration, understanding integration and suggestions on better service delivery models in the region.

For the health facility staff, a self-administered questionnaire (Appendix 6) was developed based on the literature and the aims and objectives of the study for assessing the impact of HIV scale-up on delivery of non-HIV priority services in health facilities within the province. The self-administered questionnaire survey approach was the most appropriate method for this study and some of its strength included respondent confidentiality and anonymity, freedom of expression among others (DeVaus, 1995). This method is also economical since it's not costly compared to other methods, and it can also collect data within a very short time period. The interview

schedule was piloted among ten selected individuals from 3 counties that were not part of the study. Pilot testing was conducted to detect any limitations in study design, to ascertain how questions would be interpreted by participants (Brinkmann, 2008), and to assess the researcher's interview skills, through this it was also easier to determine the most logical and smooth-flowing order of the questions. It allowed for the identification of wording issues that needed to be addressed for clarity sake, which would enhance the integrity of the study data. Lastly, it was able to point out the amount of time it would take to conduct the interview, which was one of the first questions that was asked by potential participants. A notable problem encountered during pilot testing, included the use of a low-end speakerphone that tended to disconnect after a few minutes of use (e.g., 15 minutes) which contributed to missing the tape recording of the conversation and it was therefore necessary to source for a high-powered telephone.

3.4.4 Data collection procedure

3.4.4.1 Health facility managers

From each health facility, the researcher requested the name of the health facility manager or a staff at their facility who could provide more information about the study aim and objectives. Self-administered questionnaires were given to health facility managerial staff identified.

3.4.4.2 Key informants

Key informant interviews were conducted with six of the ten key health informants to elicit specific information using a descriptive survey design (Table 4). The interview guide (Appendix 5) was based on study aims and objectives, and was designed according to principles which maximize data credibility. These include the use of open questions framed in everyday language free of technical terms; and avoidance of leading questions (Ziegenfuss, Burmeister, Harris,

Holubar & Beebe, 2012). Initial questions were framed so as to establish rapport between interviewer and respondent, thereby decreasing the likelihood of "socially desirable answers" (Morse, 2015). Probing questions were used to elicit additional details or, if needed, to validate respondents' meaning (Green, 2013). The interviewees were more responsive towards setting up interview appointments via the phone compared to face to face interviews. Four interviews were conducted using the telephone because the participants could not accessible through face-to-face, but the other two were face-to-face. A speaker phone was used for the telephone interviews alongside a portable recording machine. A numeric code was created for each interviewee and the code was placed on the interviewees' interview sheet, and the same code was recorded on the audiotape before the interviews began, this allowed for easier matching of each written record with the audio taped interview. Additional notes were taken during the interview as a supplement to the audio recording. It was stressed that the study was being conducted only for academic purposes, and that participation in this study was completely voluntary, anonymous and confidential. Access to the provided information would be limited to the university researchers only. It was envisaged that this process would maximize the usable responses.

For the face to face interviews, one interview was conducted in the participant's office and one interview took place at a public campus. Issues of confidentiality were discussed before the interview and revisited upon during the meeting. Both interviews were audio-taped. Informed consent for the interview and audio-taping was obtained before the start of the interview and tape recording. Interviews varied in length between 30-40 minutes.

The incorporation of contributions from the health care staff and key informants was important since it guided in addressing objectives 2 and 4 and guided in the review of the service delivery

and process models that form the basis for the creation of indicators for service development and delivery presented in Chapter 4 and 5.

3.4.5 Data Analysis

The interviews were recorded digitally and then transcribed by the researcher into a tabular format as soon as possible after each interview. Once all interviews had been conducted, data was subjected to thematic content analysis, which involves organizing respondent accounts to allow for the identification of important patterns or themes (Braun, 2006; Guest, 2012). In order to gain familiarization with the data and correct the transcription errors, the researcher listened to each recorded interview more than once, the information collected was then used to identify suitable themes and develop a codebook. Each transcript was manually coded, and data extracted from the transcripts was combined, tabulated and sorting repeated. Data under each category was re-read severally and codes validated (Guest, 2012) after refining the codebooks. Final revisions were then made to the codebook (Table 6).

Table 6: Qualitative Codebook

THEMES	CATEGORIES	CODES
Meaning and importance of HIV scale-up	Importance of HIV scale-up	
		The willingness to scale-up HIV services
		Relation to other non-HIV priority services
	Concepts of HIV scale-up	Definition of HIV scale-up
		Functionality of HIV scale-up
		Linkage of HIV scale-up to non-HIV services
		Indicators of scale-up
Perspectives of scale-up on service delivery on non-HIV services	Knowledge/beliefs of scale-up	Staff turnover
		Workload
		Donor funding
	Health facility management attitudes towards HIV and non-HIV service delivery	Integration with other non-HIV services
		Motivation to upgrade the facilities
		Influence in increased patients in facility
	Health facility staff experiences with service delivery of both HIV and non-HIV services	Staff turnover
		Workload
		Training
	Barriers to HIV scale-up, service delivery and integration with non-HIV services	Staff turnover
		Increased workload
		Political interference
Health facility staff awareness	Scale-up and integration knowledge, beliefs and attitudes	Support scale-up efforts
		Support integration efforts
	Views on HIV scale-up and integration	Understand importance of scale-up and integration
		Anticipate sustainability challenges
		More interventions needed

3.5 Ethical Considerations

Ethical approval for the study was obtained from the Durban University of Technology (DUT) Institutional Ethics Committee (IREC) and the Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH) Ethical Review Committee. The process subscribed to international standards in research ethics to which the DUT IREC subscribes. All participants gave their informed consent for participating in the study and all participant and health facility records were kept in a confidential way.

CHAPTER FOUR: RESULTS

4.1 Overview

This chapter discusses the respondents' profiles along with participant characteristics, data screening, data entry and findings.

The goals of this chapter are to:

- Report on the data management procedure and handling of missing data
- Present and describe the response rate, respondent demographics including their characteristics and sites from which they were drawn.
- Present the quantitative and qualitative findings according to the aim and objectives of the study.

4.2 Data management procedures

The facility data sheet and interview guide were refined again after pilot testing to include rewording of some questions for greater clarity and inserting additional probes to facilitate more detailed responses. In addition, the interview guide was further revised and factors such as pauses were added to ensure that the participant were allowed to complete their responses before moving to the next question (Weiss, 1995).

4.3 Response rate

In this study, a total of 103 health facility managerial respondents within the sampled health facilities had agreed to participate in the survey and the survey questionnaires were distributed to the 3 counties by the researcher and research assistants to the agreed participants with a promise to collect them all within four weeks after the distribution. Attached to the survey was a covering

letter from the provincial ethics committee and the DUT ethical committee supporting the research and encouraging participation in the survey (Appendix 3). The letter stressed that the study was being conducted only for academic purposes, and that participation in this study was completely voluntary, anonymous and confidential. The total responses after collection and follow-up telephone calls where necessary were 55 with an average response rate of 53.4%. Out of the ten key informants targeted by the researcher, only six informants were able to participate in the study therefore yielding a response rate of 60%. The detailed responses and response rates of the health care staff and key informants are reported in Table 7 below.

Table 7: Staff Category and Overall Response Rate

Category	**Total Sample**	**Return**	**Return %**
Health facility managers	103	55	53.4%
Key informants	10	6	60%

4.4 Participant demographics and data screening

The profile of the respondents and the participating sites are presented in this section as part of the data assessment. Since the second part of this study used a self-administered questionnaire, response error was considered since the researcher had no control on completion of the questionnaire (Braun, 2013). Hence, the relevant data screening techniques including the descriptive statistics, entry and treatment of missing data are described in this section.

4.5 Data Entry and Missing Data

The data analysis began by examining data entry and the handling of missing data. This is relevant to gain some critical insights into the data characteristics and analysis (Green, 2013). For purposes of ensuring precision, data was entered by two different research assistants and

double checked by a set of two different research assistants and the researcher. During the first check, all the entries were confirmed and during the second check descriptive calculations were made to assess the frequency and distribution of data after which the entries were computed and verified by the researcher. Four mistakes were found during the frequency distribution check, and these were associated with the data entry process, these were corrected, however the data entry accuracy was 98%.

For the chart reviews, five facilities with missing data (6.8%) across the two study periods were excluded from the analysis. In examining the wholeness of the returned health facility and staff questionnaires, it was found that 48 health facility questionnaires contained missing data for some of the sections. Among those cases, 20 questionnaires had at least 20% or more of the overall questionnaire unanswered and missing data in the respondents' roles in the facilities due to perceived concern over confidentiality of data. It was also observed that 28 of these 48 were returned with no information filled in. These 48 cases were omitted from the preliminary analysis (Green, 2013). The main reason for non-response and missing data among the health facility managers included issues like busy schedules and frequent travels. Another possible reason could have been misunderstanding and reluctance by the respondents because there were some questions relating to their direct roles in the facilities which they may have considered sensitive (Cypress, 2015).

Therefore, upon deletion of 48 cases, 55 usable questionnaires were retained in the database (response rate of 53.4 %) for further checks and analysis. since this was an impact study, non-response was considered a problem and it was excluded from the analysis. The key informant interviews yielded a 60% response rate; only six out of ten informants were available for the

interview; however the biggest challenge was accessing them because of their busy schedules. Four of them promised to participate but declined in the end due to time constraints and unforeseeable circumstances.

4.5.1 Respondent and Site Profile

In terms of participant demographics, site and respondent characteristics varied widely. Respondents' gender, educational qualifications, age, experience, and their job position in the health facility are relevant descriptive and demographic data. In addition, in the chart review category, the location, type, ownership and services offered within the health facilities are relevant to the site characteristics. While demographic information has no impact on the level of analysis of this study, this reporting may provide a generalized view in terms of demographics like male and female participation in health care service delivery. Table 8 shows that the health facility responses were made up mostly of female respondents (54.5%).

Table 8: Respondents' profile

Demographic features	Health facility respondents	Key informants
	Frequency (%)	Frequency (%)
	n=55	n=6
Age of the respondents		
Under 35 years	16 (29.09)	
35-50 years	35 (63.64)	4 (66.7)
Above 50 years	4 (7.27)	2 (33.3)
Gender		
Male	30 (54.55)	4 (66.7)
Female	25 (45.45)	2 (33.3
Mean [SD] age	38.62 (7.08)	
Educational qualifications		
University	36 (65.45)	6 (100)
Tertiary college	19 (34.55)	
Designation of the respondents		
Administrator	8 (14.55)	
Clinical officers	11 [20]	
Finance officers	2 (3.64)	
Lab technologists	9 (16.36)	
Medical officers	3 (5.45)	
Nurses	8 (14.55)	
Nutritionists	2 (3.64)	
QA officers	2 (3.64)	
Records officers	5 (9.10)	
Social worker	1 (1.82)	
Missing	4 (7.27)	
County director of health		1 (16.7)
County HIV/AIDS and STI coordinator.		3 (50.0)
Minister of Health		2 (33.3)
Length of service		
Under 10	23 (41.82)	4 (66.7%)
10-20 years	32 (58.18)	2 (33.3%)

Table 4.2 shows that the majority of the health facility respondents in the health facility had graduate qualifications (67.3%). The respondents' age range was wide. The largest proportion of

respondents (45.5%) are from the age group of 46 to 55 followed by a relatively middle aged generation of 36 to 45 years of age (32.6%).

As reported in Table 8, the median (range) duration of respondents' experience in the health facility is ten (2-18) years. Most of the respondents in this study (about 87.3%) had more than five years of experience working in the health facility. In terms of designation of the respondents, all six key informants in the survey held key decision-making positions either as county director of health, county AIDS and STI coordinator and Minister of Health within the three counties (100%). The key informants' overall position within the study sites signifies the high profile participation in the survey that added to the data quality (Hammersley, 2007). In addition, a significant number of senior health administrative managers (21.8%) who play a key role within the health facilities also participated in this survey.

Health facility characteristics are an essential part of analysis to categorize the participating facilities. However, as noted earlier, a total of 73 health facilities participated in the study but only 68 (93%) facilities were captured in the analysis due to incomplete data. All the 68 health facilities were involved in the delivery of both HIV and non-HIV services (Table 9).

Table 9: Distribution of health facilities in the three participating counties in Nyanza Province

Facility type	County			Total
	Kisumu	Homabay	Nyamira	
National referral hospital	0	0	0	0
Provincial hospital	1	0	0	1
District hospital	3	2	0	5
Sub district hospital	5	11	7	23
Health center	11	6	22	39
Total	20	19	29	68

4.6 Objectives 1, 2 and 3 with Quantitative findings

4.6.1 Objective 1: Service delivery of non-HIV priority services in health facilities where there has been rapid scaling up in the delivery of HIV services

The aim of this section is to illustrate how non-HIV service delivery was performing in two counties where there was high HIV prevalence and rapid scaling up in the delivery and coverage of HIV services compared to a county with a low HIV prevalence. Table 10 illustrates a consistent upward trend from 2009 to 2013 in the number of health facilities offering a range of core HIV and non-HIV related mother and child health services; steady (PMTCT) or rapid (ART) increases in HIV service population coverage; and evidence that reproductive and child health population program coverage levels were sustained or increased slightly.

In order to verify that there was a change in non-HIV service delivery with the HIV services scale-up between the two periods, the group differences in facility data, Wilcoxon scores were created for services offered within the two periods and the difference assessed using the Wilcoxon test. Tests for all 68 facilities between the two study years were conducted. The results indicate that there is a significant difference in service delivery offered in the health facilities between the two periods ($z = 6.86$, $p<0.01$). In terms of the group median between the two years,

the results show that the median scores of service delivery in all the health facilities in 2013 was significantly higher than that of 2009 on non-HIV service delivery and integration ($p<0.01$). We also compared the proportions of facilities by the different services offered between the two years. There was no significant difference observed for non-HIV family planning, ANC/PNC and child health services, ($z = 1.42$, $p=0.16$), ($z = 1.75$, $p=0.08$) and ($z = 0$, $p=1$) respectively (Table 10). Services within the two study periods ($p=1$) and all the health facilities in the three counties had capacity to provide the non-HIV services (Table 10). However there was a noted scale up difference in service delivery for TB diagnosis and treatment and malaria treatment within the counties in the two study periods ($z = 7.39$, $p<0.01$) and ($z = 3.10$, $p<0.01$) respectively (Table 10).; only eight facilities (28%) in Kisumu county, 13 facilities in Homabay county (45%) and eight facilities in Nyamira county (28%) were offering TB treatment in 2009, however there was 100% uptake in all the three counties in 2013 ($p<0.0001$; $p=0.02$; $p<0.0001$ respectively). There were also notable differences in Malaria treatment within the three counties in 2009 compared to 2013; Kisumu county had 18 facilities offering the service, while Homabay and Nyamira county had 17 and 24 facilities offering the service respectively ($p=0.5$; $p=0.5$; $p=0.05$ respectively).

Table 10: HIV and selected non-HIV services provided within the counties

	2009				2013					
Site profile	**All facilities**	**Kisumu**	**Homabay**	**Nyamira**	All	Kisumu	Homabay	Nyamira	**z-score**	**p-value**
HIV services										
Counselling and testing	68	20	19	29	**68**	**20**	**19**	**29**	0	1
PMTCT	68	20	19	29	**68**	**20**	**19**	**29**	0	1
Antiretroviral therapy	68	20	19	29	**68**	**20**	**19**	**29**	0	1
Support services										
Women to women support	66	19	19	28	**68**	**20**	**19**	**29**	1.42	0.16
Food/nutrition support	68	20	19	29	**68**	**20**	**19**	**29**	0	1
Income generating activities	1	1	0	0	**29**	**18**	**11**	**0**	5.79	<0.01
NON-HIV SERVICES										
Family planning	66	20	18	28	**68**	**20**	**19**	**29**	1.42	0.16
ANC/PNC	65	19	18	28	**68**	**20**	**19**	**29**	1.75	0.08
TB diagnosis and treatment	29	8	13	8	**68**	**20**	**19**	**29**	7.39	<0.01
Child health services	68	20	19	29	**68**	**20**	**19**	**29**	0	1
Malaria diagnosis and treatment	59	18	17	24	**68**	**20**	**19**	**29**	3.10	<0.01

4.6.1.2 HIV services

In terms of the health care service delivery as well as the distribution of the health facilities within the three counties, Table 10 summarizes the range of HIV related services identified in the 2009 mapping exercise. Most of the health facilities (73%) had a system of integrating the different services into service delivery within the duration of the study by 2009 and sustained them when reevaluated in 2013.

There was no difference in HIV service delivery between the counties during both study periods. All 68 (100%) facilities provided HIV counselling and testing, ART, PMTCT and a wide range of HIV support services within the two study periods. The 68 facilities in the three counties also provided fee exemptions for people living with HIV/AIDS whereas the delivery of support services varied with the type of service that was being provided. Only one health facility in Kisumu county (5%), the former provincial hospital, was providing support in income generating activities in 2009, but by 2013 the number of facilities increased to 29 (43%) in 2013 ($p<0.01$). There was a significant shift in support of income generating in Kisumu and Homabay counties within the two study periods, one (5%) to18 (90%) ($p<0.01$) and 0 (0%) to 11 (58%) ($p<0.01$). However, there was no uptake in the service in Nyamira County within the two study periods. Women to women support services were taking place in 66 (97%) and 68 (100%) health facilities in 2009 and 2013 respectively ($p=0.15$). Likewise, the provision of nutritional support was more widespread in all the three counties (100%) and was significantly higher in the urban health facilities than rural (88% in Homabay) ($p<0.01$). Home based care was provided by almost all the health facilities, with no significant difference noted by county or urban/rural setting.

In the facilities providing combined PMTCT services for which there were complete data across the study periods, the numbers of facilities offering the services rose from 53 (79.9%) in 2009 to 64 (94.1%) in 2013 ($p<0.01$) (Appendix 13). A similar rolling-out pattern was noted also in ART provision. By 2009, 17 (85%) PMTCT providing facilities in Kisumu County were already testing for HIV while in 2013 there was no significant difference observed, all the 20 (100%) facilities provided HIV testing during PMTCT ($p=0.07$), whereas in the 19 facilities in Homabay offering PMTCT, HIV testing rose in 2013 where it reached 98%, up from 52% in 2009 ($p<0.01$).

4.6.2 Objective 2: Benefits and detriments of HIV scale-up on other non-HIV priority service delivery

All the health facilities offered non-HIV services by 2013 which are listed in Table 10 above. Levels of non-HIV service delivery between the health facilities during the two years under study was not different except for TB services that shifted from 29 (43%) in 2009 to 68 (100%) in 2013 ($p<0.01$). Almost all of the facilities, 65 (96%) provided male condoms except for three facilities that were mandated to provide them but were not.

As scale-up rolled out to the health centers and rural areas, there was an increase in the family planning package services being offered in the health centers, in facilities studied in this study and nationally. A large number of health facilities (66/68) offered the different packages of family planning services, including but not limited to contraceptive pills and injections, male and female condoms, implants, male and female sterilization. Generally, the health centers were not offering the male and female sterilization methods during both study periods. The number of facilities offering family planning service rose from 98.5% in 2009 to 100% in 2013 following intensive scale-up of HIV care ($p=0.09$). However, in 2009 and 2013, the provision of three

month Progestin-only oral pills and injections increased significantly from 84% to 100% and 46% to 100% respectively ($p < 0.01$) (Appendix 11).

Services being offered for children's immunizations and the level of stock-outs provide useful indicators of the performance of non-HIV services. Bacille Calmette Guerin (BCG), which reduces the risk of serious TB complications in children and is given as a long term measure to reduce TB in the population, is a good indicator of the number and proportion of infants starting immunizations. The DPT 3 (the third antigen or dose of the 3-in-1 vaccine for Diphtheria, Pertussis and Tetanus), which requires that the child be vaccinated on three separate occasions, is a good indicator of the performance of the Expanded Programme of Immunization. The third dose is given ideally before six months of age. The most complete immunization data sets that were obtained from the three counties were for BCG and DPT3, where complete data from 2009 to 2013 were obtained for 68 facilities (BCG) and (DPT3) mother and child health services. Overall, DPT3, measles, polio and BCG coverage rates remained stable within the study periods, at 100% and without any fluctuations, supporting the hypothesis of an effective immunization program.

Antenatal coverage levels for both services were maintained across all 68 facilities that reported data consistently across the two study periods. Coverage rates rose from 65 (96%) in 2009 to 68 (100%) in 2013 following the integration of HIV care ($p=0.09$). The percentage of antenatal clinic facilities that offered a HIV test in these facilities rose from 57 (84%) in 2009 to 68 (100%) in 2013 ($p<0.01$), and majority of the facilities 67 (98%) of the facilities reported having trained staff offering the HIV test to women. Data on total numbers of antenatal visits were available, but health information systems at the facilities did not provide data on the numbers of

women who completed four antenatal care visits; nor on numbers of family planning visits and adherence.

Table 11: The pairs of associations for intra-facility service trends between HIV and non-HIV services within the same facilities for the two study periods: 2009 and 2013 inclusive

Non HIV services		HIV services					
		ART		PMTCT		HTC	
		2009	2013	2009	2013	2009	2013
		n=68	n=68	n=68	n=68	n=68	n=68
Antenatal clinic	Yes	68	68	68	68	68	68
	No	0	0	0	0	0	0
Family Planning	Yes	68	68	68	68	68	68
	No	0	0	0	0	0	0
Child Health	Yes	68	68	68	68	68	68
	No	0	0	0	0	0	0
Tuberculosis	Yes	29	68	29	68	29	68
	No	39	0	39	0	39	0
Malaria	Yes	59	68	59	68	59	68
	No	9	0	9	0	9	0

Comparisons between facilities that were delivering each of three HIV services (ART, PMTCT and HCT) and four non-HIV service trends (antenatal care, family planning, TB, childhood immunizations and Malaria) showed strong correlation (Table 11). Strong positive correlations between trends in PMTCT and other reproductive health services were expected and were found (n= 68, R=1) (68 facilities in the analysis). There was a strong positive correlation (R=1) between PMTCT, ANC and family planning service delivery of 100% in all the 68 facilities. There was moderate association between ART and TB where only 29 facilities providing ART supported TB diagnosis and management, however the numbers increased in 2013 with 100% uptake of both tests in the 68 health facilities (R=1; $p<0.01$) Data were also collected on a range of other non-HIV services and support services, including a range of laboratory tests. There were minimal charges for specific HIV related tests and child health services in all the 68 facilities.

4.6.3 Objective 3: Elements that characterize HIV programs and enhance non-HIV service delivery and outcomes

Health system challenges are often linked to delivery of quality of care in health facilities. In most cases health care staff are willing to provide high-quality care, but because of systemic challenges such as lack of documentation tools or unavailable policy and guidance documents, or insufficient training, efficient care is not delivered. It was therefore critical to determine whether the health facilities had any systems in place in terms of protocols/guidelines on how the services delivered work. This information was sourced in order to determine the extent to which leadership, as an aspect of HIV scale-up in the facilities operates. Such information would then be used to determine whether quality care is being delivered or received in the health facilities. The study therefore sought to determine the availability of the laboratory protocols and policy documents. Most of the facilities that participated in this study reported that guidelines were available within the facilities during both study periods, however important guidelines were missing in some facilities in 2009 but were all available in 2013, 60 (88%) of these included the guideline for malaria management, (in 2009) and the number rose to 68 (100%) in 2013 ($p<0.01$). The manual on national malaria programme was available in 54 (79%) facilities in 2009, compared to 68 (100%) in 2013 ($p<0.01$). The HTC guidelines were available in 65 (96%) facilities in 2009, and in all the 68 (100%) facilities by 2013 had the guideline in place ($p=0.08$). The TB management and TB leprosy guidelines were found in 62 (91%) facilities in 2009, and by 2013 there was an observed uptake in 68 (100%) facilities ($p=0.01$), and the national guidelines for STI services were available in 28 and 68 ($p<0.01$), and PEP guidelines 32 and 68 ($p<0.01$) respectively.

4.6.3.1 Stock supply and stock-outs

Assessment of drug and supplies stock maintenance showed some relevant findings (Table 12). There were normal stocks of most of the supplies in 2013 compared to 2009 in all the health facilities except for male condoms that were not stocked in five facilities (7%). Only two of 63 facilities that reported first line ARV stock-outs had experienced these shortages for the last 6 months in 2009, however there was a significant difference in stock-out of second line ARV within the same period (p=0.03). In 2009, there were no stock outs for Ergometrine during the last 6 months, however, six month stock-outs for Coartem and gloves that were of no significance were also more common in both years (p=0.16 and 0.3 respectively). In 2009, 12.6% of the facilities that stocked antiretroviral drugs (ARVs: first line, second line and lamivudine) reported stock-outs in the previous 12 months; seven (11%) facilities had a stock-out of first line ART, nine (17%) facilities had stock-outs for the second line ART while six (9.7%) facilities had stock-outs for Lamivudine. However, stock-outs were not common in 2013, and the number of facilities with ARV stock-outs decreased by almost half to 6.4%. Twelve month stock-outs were more frequent for Coartem, a first line antimalarial drug in both study periods (stock-outs had occurred in 36% and 25.5% of facilities that stock them in 2009 and 2013 respectively) (p=0.05), male condoms (stock-outs in 24% and 17.5% of facilities in 2009 and 2013 respectively) (p=0.5), however gloves, supplies that were mostly used for the delivery of both HIV and non-HIV services, reported stock-outs in 31.8% and 25% of facilities in 2009 and 2013 respectively) (p=0.4). Tuberculosis treatment drugs, Rifampicin, were not normally stocked by 2009 (67.6%), however, all the 68 (100%) health facilities reported availability of the drug in their facilities by 2013 (p<0.01). There were also 10% and 7% 12 month stock-outs of Oxytocin and Ergometrine that were used in the management of labour and infant delivery, and

these stock-outs improved by 2013 where there were very few stock-outs for Oxytocin (2.9%) and none for Ergometrine (p =0.09 and 0.06 respectively).

Table 12: Drugs and medical supply at facilities in Nyanza Province Kenya comparing frequency of stocked and stock-outs supplies within 6 and 12 months between data phases in 2009 and 2013

Drug/medical supply	Normally stocked		p-value	Stock out in last 6 months		p-value	Stock out in last 12 months		p-value
	2009	2013		2009	2013		2009	2013	
ARV first line	63 (92.6%)	68 (100%)	0.06	2 (28.6%)	0 (0%)	0.2	7 (11.1%)	4 (5.9%)	0.36
ARV second line	53 (77.9%)	68 (100%)	<0.01*	4 (44.4%)	0 (0%)	0.03*	9 (17%)	6 (8.8%)	0.27
Lamivudine	62 (91.2%)	68 (100%)	0.03*	2 (33.3%)	0 (0%)	0.2	6 (9.7%)	3 (4.4%)	0.3
Rifampicin	46 (67.6%)	68 (100%)	<0.01*	7 (70%)	2 (40%)	0.001	8 (17.4%)	5 (7.4%)	0.13
Male condom	50 (73.5%)	63 (92.6%)	0.005	8 (66.7%)	4 (36.4%)	0.13	12 (24%)	11(17.5%)	0.5
Coartem	55 (80.9%)	68 (100%)	<0.01*	13 (65%)	9 (64.3%)	0.16	20 (36.4%)	14 (25.5%)	0.05*
Syringes	64 (94.1%)	68 (100%)	0.12	2 (50%)	4 (66.7%)	0.7	4 (6.3%)	6 (8.8%)	0.7
Iron tablets	65 (95.6%)	68 (100%)	0.24	7 (77.8%)	0 (0%)	0.006	9 (13.8%)	2 (2.9%)	0.03*
Gloves	66 (97%)	68 (100%)	0.5	12 (57.1%)	8 (47%)	0.3	21 (31.8%)	17 (25%)	0.4
Ergometrine	68 (100%)	68 (100%)	1	0 (0%)	0 (0%)	1	5 (7.4%)	0 (0%)	0.06
BCG	68 (100%)	68 (100%)	1	2 (66.7%)	0 (0%)	0.5	3 (4.4%)	1 (1.5%)	0.6
Oxytocin	65 (95.6%)	68 (100%)	0.24	5 (71.4%)	0 (0%)	0.03*	7 (10.8%)	2 (2.9%)	0.09
IV giving test	62 (91.2%)	68 (100%)	0.03*	3 (75%)	0 (0%)	0.1	4 (6.4%)	5 (7.4%)	1
Rehydration salts	66 (97%)	68 (100%)	0.5	3 (60%)	0 (0%)	0.1	5 (7.6%)	3 (4.4%)	0.5

Key: * significant difference between time periods

4.7 Objectives 2, 3, 4: Qualitative findings with discussion

All of the key informants had a managerial background within the counties and demonstrated good insight and sensitivity to medical professional issues. Influences related to their professional background were acknowledged by the informant and by the researcher and all of the informants showed a willingness to express opinions that were not too general or very politically sensitive. However, a few varying statements were made, by the informant during and after the interview. These few inconsistencies, biases and politically significant statements were acknowledged but not pursued since none of them was likely to influence the aims of the study. An overview of the results is provided below in order to highlight the information that was obtained during the six interviews.

4.7.1 Objective 2: Benefits and detriments of HIV scale-up on other non-HIV priority service delivery

The study sought to assess whether HIV financed facilities were being used to deliver non-HIV services. This question was important since it would help find out whether HIV scale-up could result in overall increases in utilization of non-HIV-related health services, promoting improved health outcomes beyond those specifically addressed by HIV programs. The respondents were asked to share their experiences on HIV scale-up and integration with non-HIV services. Almost all the respondents (52= 95%) reported that HIV services were offered in their facilities, and all of them (100%) indicated that the non-HIV services in the study were offered in their facilities too. Further, 21% of the respondents reported that the scale-up process had been very successful in their facilities, while 86% of them revealed that the scale-up of HIV services in their facilities was successfully implemented and only 4% indicated that they were neither satisfied nor unsatisfied with the scale-up process.

The scale-up of HIV services has motivated investments in other advanced medical technologies, which benefit HIV-negative as well as HIV-infected patients. It was revealed by all the respondents that scale-up of HIV services had a spillover effect on other non-HIV priority diseases, and they all agreed that the resources provided through scale-up were being used for non-HIV services. However, most respondents (85%) noted that they had witnessed an increase in workload- there had also been 89% increase in use of services for both HIV and non-HIV diseases whereas 38% reported that they had also benefited from staff trainings sponsored through HIV related services but the greatest concern was that 38% felt that staff turnover was a risk in the scaling-up and integration efforts. HIV scale-up has heightened attention to the human resource challenge in sub-Saharan Africa and therefore the perceived or actual shortage of staff is a commonly mentioned as a challenge to integration efforts (Church & Mayhew, 2009).

The respondents were asked whether their patients had also felt the changes brought about by scale-up and integration of non-HIV services. A large number of staff (61%) agreed and indicated that their patients had indicated satisfaction with the service delivery in their facilities. Of great importance was that most respondents (90%) reported that HIV scale-up programs had supported extensive renovations and construction of health facilities within their settings. Moreover, quite a large number of respondents (96%) reported that since the improvements in infrastructure benefited both HIV-negative and HIV-positive patients, it had positively contributed to the delivery of non-HIV services within HIV care and treatment. this is similar to other findings that have reported that HIV scale-up has helped in reversing the loss of health care workers by improving worker health, morale, remuneration and work environment (Dohrn, Nzama & Murrman, 2009; Price, 2009). The study further sought to establish the relationship between the laboratory and NGO's over delivery of care since NGOs can be a significant source

of health care delivery in the public hospitals. To achieve this, staff respondents were asked to state the nature of the relationship between their facilities and the NGO's. Most of the respondents (65%) felt that the relationship between the facilities and NGOs in their setting was good – most of the facilities (52%) were based in Homabay County. The good relationship indicates that HIV scale-up has specifically motivated donors to increase their support for health systems strengthening and service delivery.

In assessing some of the benefits and detriments of scale-up, 88% of the respondents stated that HIV scale-up had positively contributed to the delivery of non-HIV services – in determining the level of contribution, a large number (80%) felt that scale-up had largely contributed to improved service delivery within their facilities, and this may be attributed to the overall increases in utilization of non-HIV-related health services, that have contributed and promoted the improved service delivery A small percentage of respondents (12%) however felt that scale-up had contributed negatively in the delivery of non-HIV services through barriers like insufficient training (14%), workload and there was a heightened attention towards the staffing deficiencies (39%) within the health facilities. Around 75% of the respondents indicated that they address the barrier through constant communication with the relevant stakeholders, risk pooling strategies (25%) and the development of monitoring and evaluation systems (5%).

4.7.2 Objective 3: Elements that characterize HIV programs and enhance non-HIV service delivery and outcomes

It was necessary to establish whether there was political will in the scale-up and integration of both services within the facilities. The study therefore sought to determine the level of the political will, and 59% of the staff reported that there was political will by the leaders within the county governments – and this was achieved through the implementation of policies (45%),

decision making (22%) and resource allocation (12%). However some respondents recommended that services should be decentralized further (11%) to attract more political will, especially in regions mostly affected by HIV like theirs.

Majority of the respondents (88%) also reported that the training supported by HIV scale-up had increased their capacity in the health facility settings to perform basic functions, such as physical examinations, patient histories, monitoring of pediatric growth and development, patient education, and the like. The respondents were asked to respond on how information is disseminated to other staff and stakeholders within their facilities. Most of them (62%) stated that information was shared to them through facility based continuous medical education, 28% reported that departmental meetings were often used to communicate to them, 14% indicated that health talks within their facilities was the channel used while 8% received information through facility notice boards.

It can also be observed from the findings that around 87% of the respondents had monitoring and evaluation systems within their facilities used to evaluate quality of care indicators that were mostly conducted through routine facility data analysis (58%), internal and external audits respectively (27%, 6% respectively).

4.7.3 Objective 4: Perceptions, attitudes and experiences of facility personnel towards HIV scale up and non-HIV service delivery

This theme contained participants' personal concepts of HIV scale up, including its effect on non-HIV service delivery. The quotes reported in this section have been supplemented with the diary notes collected during the interviews.

The key informants were drawn from the government health sectors of the three counties, and data are presented here according to two main levels of influence on scale-up and integrated HIV and non-HIV care provision within the three counties: the policy level (national and county government), and the service-delivery level (from experience within the counties). All the six key informants interviewed supported the fact that HIV-funded clinics, laboratories and equipment were being used in the delivery of non-HIV-related health services. Most of them (four of the six) also reported that significant renovations and repairs were continuously being made to ANC clinics, general outpatient clinics and waiting bays, TB clinics, pharmacies, laboratories, and other non-HIV-specific areas within the health facilities:

KI-2: Scale-up of HIV services and activities in this region has led to an overall rise in the uptake of non-HIV-related health services, like malaria and TB treatments, and through this we are observing an improvement in general health within this population, aside from the HIV menace we are witnessing some changes…

One key informant reported that renovated HIV clinics were also used in the treatment of malaria, tuberculosis and other non-HIV diseases. He noted: *KI-1*:*…"HIV scale-up has led in the generation of key health resources especially in malaria and TB that are also prevalent in this region…we have also seen a rise in reproductive health activities such as male circumcision, heightened condom distribution among other interventions like support services for those infected with HIV.."*. According to all the informants, facility renovations and upgrades have largely contributed by attracting patients to attend the health facilities for care and also contributed to improved staff morale.

Two of the informants cited the increase in infrastructural renovations of health facilities and services as the greatest benefit achieved from scaling up HIV programs. They reported that these renovations and changes were positive since they enabled for delivery of improved quality services, but the greatest concern was that the renovations were mostly taking place in health facilities that were in the urban areas, neglecting the marginalized and rural health facilities:

KI-3: A lot of effort has been put in improving service delivery in this region, I understand why…it is clear that the HIV epidemic has attracted a lot of attention here…that is ok, but we need to ensure that all these interventions that we are working hard on implementing are sustainable...we need to invest more in this area, and especially focusing more in the marginalized facilities because that is where the burden is..

Most of the informants noted that there was no standard guideline or policy guide that focused on the integration of HIV and non-HIV care, and this was seen to negatively affect integration of services. They observed that there numerous were efforts to integrate non-HIV services within HIV care delivery, however most guidelines that were available were mostly specialized to the services offered like HIV and family planning or HIV and TB. Moreover, these guidelines were not distributed widely to all the health facilities hence most staff did not know such guidelines existed. This concern was noted to affect most government owned facilities because investment in resources for printing and monitoring and evaluation services that could follow-up on such gaps were not sufficient.

Another challenge raised by the informants was on ownership of HIV programs, interventions in scaling-up efforts, and this was attributed mostly to the donor issues like program financing and project ownership. One informant reported that:

KI-6: You are aware that most of these HIV interventions are not owned by the government, they are funded by external donors like PEPFAR. The local representatives have taken over ownership of government health facilities because they are the major donors and they are not ready to let them go…this is a mistake and a future problem because scaling-up service delivery is a team work effort and we all have to share our expertise and skills for success and sustainability of all these interventions..

According to most of the informants (5/6), HIV scale-up had invested a lot in training health care workers, irrespective of whether they manage HIV or non-HIV diseases, and this was seen as a good way of motivating staff to have a positive attitude towards scaling-up and service integration. One informant from Homabay also reported that through such trainings, health care workers had improved their modes of service delivery by engaging the patients more and encouraging them to uptake the health service that were being offered. The challenge is in inadequate staffing because the informants noted that most health workers have been over working themselves to meet the needs of their patients thus pushing themselves to unhealthy limits, however considerations such as task shifting have gone a long way in trying to address this gap. :

One informant said;

KI-2: Because of the high HIV prevalence in this region and the numerous interventions that are going one, we are forced to deal with a lot of patients and at the same time we have very limited staff capacity to handle all these patients…the staff are very few and it is therefore important that we try and find along lasting solution to this---let us find a way of ensuring that we have enough staff so that we don't compromise all these efforts

In terms of structural reorganization, all the informants felt that the non-HIV services like reproductive health, child health among many others were more strengthened compared to the pre-scale up era. General service delivery had improved to unanticipated capacities:

KI-5: The level of reorganization within the health facilities cannot be disputed, the efforts have been great and very successful, and these have allowed for easy and safe working environments that accommodate everyone.

Another informant reported:

KI-1: We basically have access to every affordable opportunity that could only be found in private health facilities and we therefore need to ensure that all these efforts are sustained to allow for continuity of care and universal access of health care to all.

The informants also observed that there was need to strengthen the health referral systems within the counties in terms of clear guidelines and policies on the care that should be given to the patients who visit the health facility for care, and there should be open channels of communication between the facilities that refer each other:

KI-4: …I would define successful integration as when a patient is happy and I am happy too, and so as we refer patients we need to be clear to each other on our needs, have open channels of communication and data sharing…

The informants also agreed that a lot of research in HIV and the interventions involved had increased within the region, and this was viewed as a positive way of collecting information and finding a lasting solution. They however proposed that aside from building capacity within the

health system, the government should focus further in strengthening the leadership network of the health facilities:

KI-1: We have seen so many senior health workers who have advanced their education in the past few years and are not growing in terms of career because we have shifted our focus to the young people who we view as equally having lots of potential. We need to merge these two groups of people and ensure we invest in all of them…

It was also observed that health care attitude also went a long way in effective service uptake and delivery. Some health facilities had staff who were resistant to change in areas of HIV scale-up and integration thus derailing the attempts made towards equity in service delivery, this was happening mostly due to unclear motivation plans, structural and financial challenges:

KI-2: You should not be shocked when some health care workers become resistant in implementing some of these changes, they feel that it is too much work and they go as far as referring HIV infected patients to NGOs that offer the same services....it basically means that we need to invest more into training our health care workers and sensitizing them continuously

However, some health care workers have adopted positively towards these changes in the health system and they are ready and willing to support implementation and sustainability to ensure proper service uptake:

KI-6: I am often proud when I see staff who are very positive towards findings solutions to our systemic and programmatic issues, it means that they understand that all these efforts are for their own benefit, the patient and the entire community, thereby allowing for a smooth working environment which is pressure free….

4.7.4 Objective 5: Model determinants for indicators for service delivery in HIV/AIDS scale-up

All the informants proposed that for successful integration to occur there was need for standardized policies that link HIV services and other non-HIV programs within the different levels of care and delivery in the country. One of them stated that;

KI-5: I think Kenya is the only country in the region that has an integrated policy on HIV and reproductive health services. It would be very important that the stakeholders involved (me included) to be able to connect the HIV services and programs available with the existing non-HIV programs like PMTCT, ANC, child health etc. in order to improve service delivery coverage and ultimately address the gaps in health care felt by the local population, country and regionally… such models and policies will contribute a lot towards HIV treatment and prevention efforts and adequate service delivery.

Most of them advocated for the establishment of a key area within the facility where all the different packages of services could be accessed, monitored and evaluated. They proposed that a clearly defined model of integrated care be applied in all the health facilities whereby one health care provider could be identified and tasked to offer the range of HIV and non-HIV services within the identified key area. This would lessen the referral processes within the health facilities that were common because of workload and insufficient staffing issues, thereby reducing the long waiting times experienced by patients since they had to queue several times at the different service points. This option of using one service provider was seen as a viable option but the informants noted that it was not realistic and hence not achievable and feasible:

KI-2: Using one service provider is only feasible in small health facilities, and even that will be a risk that we cannot take, we already have health workforce challenges, and most of them are

already overworked with all the work that these interventions require, it is therefore unfair to burden one staff with handling all activities within a health facility. The only advantage of this option is that service delivery will be a one-stop shop but in essence quality will be compromised…

…after all, why risk everything on one person, every one of us has specialized in a specific area of health care delivery, let us all work together….

The second model that was proposed by the informants was use of facility level integration whereby everyone worked as a team to ensure the implementation of services within the same facility:

KI-3: All the health facilities are currently working as a team, and this only means that we work together because we have an end point. When a nurse offers counselling to a patient, the laboratory staff is able to test the patient's samples comfortably without undue pressure to the staff and the patient. The stakeholders should now work on ensuring that this is not diluted by competing issues like political interest and ownership fights.

CHAPTER FIVE: DISCUSSION

The overall aim of scaling up and integrating health care services is to try and reach as many people as possible in service delivery. There is a great interest in trying to understand the positive and negative effects of HIV scale-up in our health facilities. The wider effects and impact of HIV scale-up are understudied in Kenya especially in relation to the provision of other non-HIV related services. This is one of the few studies conducted in the three regions that was able to sample a few health facilities, health facility staff and key informants to attempt to provide an answer on the impact of HIV scale-up through an evaluation approach that can be replicated and used in larger populations. The findings from this study on HIV scale-up reflect the set-up of services in other regions within the country.

From the analysis, most health facility and key informant respondents were female, and this is consistent with Subramanian's study (2006) where female respondents in their survey were 58% (Subramanian, Naimoli, Matsubayashi & Peters, 2011) The study found that the health facilities had received staff training during both study years, and the number of health facility staff training in the different areas of service delivery grew over time indicating that training initiatives supported by HIV scale-up were addressing issues that extended beyond the provision of HIV services. This also agrees with findings from previous studies which found that challenges of scaling up innovative programs like communicable diseases and ARV distribution can only be prevented by investing in human, infrastructural and financial resources (WHO 2007; Simmonds, 2008).

The findings from this study show that the interventions that were employed in the scale-up of HIV in 2009 resulted in significant increases in uptake of the service in 2013 and total integration of HIV and non-HIV services at all the health facilities thereby encouraging improved health outcomes beyond those specifically addressed by HIV programs. This is line with findings by Price (2009) who reported HIV scale-up had accelerated the expansion of delivery of non-HIV services like reproductive health services (Price, 2009). This study has also shown that utilization of both HIV and non-HIV services increased significantly for both years after integrated HIV care was introduced in the health facilities. Notable increases were found for ANC use, family planning, screening for tuberculosis and malaria and provision of support services to HIV infected people. There was an upward trend in the provision of income generating activities for PLHIV between 2009 and 2013, with 43% uptake in 2013 versus 1.5% in 2009. This is an indicator that HIV scale-up is leading to new approaches to nutritional programming. However there was no significant difference observed for HIV services within the two study periods. This may not have happened by chance and it therefore may indicate that the HIV service trends benefited from simultaneous integration and uptake within the facilities, thereby refuting reports indicating that the efforts put in place to combat HIV/AIDS had managed to bring more money to the field but have not always had much beneficial impact on public health outside their own niche (Preis & Cechurova, 2016). It also indicates the efforts that the donors and partners put in place to ensure that all the facilities were able to implement the HIV services internally.

Findings from the facility health staff interviewed show that HIV scale-up, through the programs in the health facilities, have contributed positively towards infrastructural renovations within the facilities, and these improvements have benefited both HIV and non-HIV services thus

contributing towards high uptake of services by the patients. These findings are similar to reports from interviews that showed that HIV scale-up had financed their clinics, laboratories and equipment and were being used in the delivery of non-HIV services (International Treatment Preparedness Coalition, 2008). Most staff indicated that efforts of scaling-up HIV had contributed significantly in training the staff in different areas of non-HIV and HIV services, thus indicating that the training initiatives were positively impacting on staff in their delivery of services. This echoes the recommendation by WHO (2006) that states that for the achievement of health related scale-up and sustainability, there needs to considerations for additional health workers to provide support in implementation. The findings also support the argument by Cailhol et al, 2013 who stressed the need to plan adequately for human resource capacity in service delivery (Cailhol et al., 2013).

Kenya appears to be the only country to have a national strategy on reproductive health and HIV integration (Republic of Kenya, 2009). From the study it was found that HIV scale-up has supported the availability of reproductive health interventions like condom supply, male circumcision, in an effort of expanding access to reproductive health benefits like contraceptives and morbidity control. However, uptake of female condoms and emergency contraceptive pills was very low in the study and service delivery was limited to referrals through prescription and this may be attributed to the cost implications to both the facility and patient since these external activities are mostly not funded. The approach used in this study is in line with a proposal that suggested that in order for scale-up to be successful and sustainable, accountability and representation at each level of the health system is required (Mangham and Hanson, 2010). This may be the reason as to why there was a high uptake of HIV services in this study thus positively

impacting on delivery of other non-HIV services, especially in relation to priority mother and child health like family planning and antenatal care.

The study found that feasibility and effectiveness of integration of HIV and non-HIV services could have contributed to the success in uptake and quality service delivery, especially in health services that are linked to each other in most of the health facilities. The findings also show that there was an increased uptake of PMTCT services within the health facilities, especially the combined package of PMTCT that rose significantly in 2013 from 2009 (58 to 64), and attributed to the fact that PMTCT was delivered in different packages, for example, at the ANC, at the comprehensive care clinic and at delivery. Other factors that may have contributed to the increased uptake and integration was the route of delivery whereby PMTCT was being delivered at different time points of the service delivery points, for example it is required that when pregnant women visited the health facility for ANC, then they are offered PMTCT as a health packages, a practice observed also in other studies (Delvaux et al., 2008). All the facilities provided HIV testing to all women attending PMTCT, family planning and ANC. However, from the findings we found no significant difference in service delivery of overall PMTCT between the two periods in all the health facilities.

These findings also show that internal and external referral processes are being adopted by most of these facilities to ensure that uptake and scale-up are met. This is in line with Mangham & Hanson's thoughts in 2010 when they stated that health facilities have to depend on each other for success, and factors of dependence include areas such as leadership, political support and social networking (Mangham and Hanson, 2010). This study showed that eligible women were being referred to within the facility or to external facilities to attend ANC to ART services. This

contributed to the high impact of HIV services that were being integrated with non-HIV services, for example, PMTCT and family planning, ART and tuberculosis diagnosis and management. In terms of contribution of the facility to service delivery, NGOs were working together with the government to provide assets like infrastructural renovations and seconding of staffing, this has always been seen as the most viable form of support to the health facilities by private partners. Most of the facility health staff and the key informants expressed a good understanding of HIV scale-up, its benefits and challenges, including detailed aspects such as infrastructural renovations and benefits of service integration that directly benefit delivery of HIV and non-HIV services. This evidence that HIV scale-up and uptake have been well accepted and adopted is in agreement with the high number of services that are available to users within the different levels of care; most services are decentralized to allow for easy access to care by the patients. This therefore supports numerous reports that indicate that knowledge directly leads to changes in behaviour among facilities and human resource as has been posited by Ledikwe, 2013, who stated that the demand for innovation reduced when there is weakness, unevenness and errors in the supply side (Ledikwe et al., 2013a).

From the key informant interviews and health facility interviews, it was noted that quite a number of them agreed that there was political will in the investment of health service delivery but some informants expressed their dissatisfaction with the high level of political interference in the management of the different health facilities within the areas of study. This was noted as a key governance issue that should be keenly looked into in the effort of health system strengthening and policy implementation. This is line with a report by the UNAIDS, 2013 that reported that political will and solidarity are the most important commitments needed in the translation of evidence into action (UNAIDS, 2013b).

Most of the facilities however showed that there were limited user fees required for delivery of HIV services, PMTCT and child health services. Moreover, it has been noted that user fees deter utilization of essential services, and available evidence shows that user fees, however, small, reduce adherence to antiretroviral treatment (Zewdie, Cahn, McClure & Bataringaya, 2008). Globally, the HIV scale-up programs generally emphasize for services to be offered free of charge. Kenya has a policy that allows for free antiretroviral therapy (National AIDS and STI Control Programme, 2012), although it was noted in this study and elsewhere that patients are often required to pay for services such as medications to cover non-HIV diseases (Birdthistle et al., 2012) as well as some laboratory tests. Most of the health facility staff and five of the key informants reported that their facilities were engaged in generating income for facility improvement through levying charges for various services including consultation, registration, drugs and laboratory services provided at the facility. Amounts charged varied by the health facility and the type of service provided, but the motivation is that patients expect responsive health care systems when they contribute to their own care. As reported by Mills (2012) , the most effective strategy of health financing is direct facility funding and it is therefore important that even as the country finds ways of generating resources and income, strong health systems should be encouraged to enable for proper management of resources brought through donor funding, and ensuring successful and sustainable integration (Mills, 2012).

The results indicate that most of the health facilities were taking steps in the integration of HIV and TB services in an effort to improve the diagnosis and management of TB in the study setting – it is known that ART treatment contributes highly to the reduction of new TB cases who are HIV infected (United Nations, 2013). By 2013 there was an increase in the delivery of TB service delivery compared to 2009; these findings are similar to a study conducted in Cote

d'Ivoire where there was an observed increase in diagnosis of TB among the HIV population (Peters, 2009) and thus advances the objectives in reducing the long term burden in the control of TB. However it wasn't possible to access patient coverage levels due to inadequate data. This study was also able to show the efforts that some facilities have made in expanding access to TB treatment, especially through integration of HIV and TB services. There was substantial increase shown in treatment coverage within the health facilities for both years.

The findings show that HIV scale-up had enhanced the increase in malaria diagnosis, treatment and follow-up services within some health facilities. Most of the facilities reported that HIV testing was being conducted within the malaria service delivery, including treatment and follow-up, demonstrating the benefits of service integration. These findings are similar to those found in Zimbabwe where HIV scale-up was linked to malaria and TB through integration (International Treatment Preparedness Coalition, 2008).

There was 100% uptake, delivery and coverage of immunization services following HIV scale-up and integration between the years under study, however there was no consistent correlation between trends in delivery of HIV and immunization services. The linkage of immunization and PMTCT has clearly impacted on the high uptake of both services. These data are evidence that delivery of immunization has been positively stable and sustainable within the different levels of health facilities. This is important since it indicates that continuous monitoring of the children through immunization and PMTCT may contribute to improved growth and development for the children. A similar finding was observed in Rwanda where coverage for immunization increased following HIV integration (Price, 2009).

The findings also show that malaria, ARV drugs and male condoms were the most common stock-outs within the different health facilities sampled. During the interviews with key informants, one of the challenges raised was the slow procurement process that has contributed to stock-outs in most of the health facilities. Most of the informants reported that funds for procurement were inadequate and that contributed to the delays experienced in supplies to the facilities. Some of them reported wastages and inefficiencies within the health facilities also contributed to stock-outs of supplies like gloves, for example some shortages took place because some staff took out the drugs and supplies for sale to other facilities or clinics and for their own use. This is an indication of weak health system monitoring that has also been experienced by facilities in Mozambique that had weak monitoring and evaluation systems and therefore calls for putting in place specific measures to address these weaknesses in monitoring and evaluation (Sprague, Chersich & Black, 2011).

Interviews with the health facility staff revealed that a majority of health facilities – based on the feedback from 85% of the respondents – have a service quality track feedback system and tools to capture and monitor information on the quality of services offered in the health facilities. These are mostly efforts that have been put in place through the HIV scale-up demands by UNAIDS that has seen HIV-related monitoring and evaluation capacity in the region improve significantly during the study (UNAIDS, 2008). According to most of the respondents, some of the tools include internal and external audits, and facility data analysis. This indicates why the staff were generally satisfied with services being delivered in their facilities and this indicates that most of the services were performing well, as has been documented in other studies (Brugha, Kadzandira, Simbaya, Dicker, Mwapasa & Walsh, 2010). However there are concerns

that were raised in relation to HIV scale-up concerning sustainability, sufficiency and timeliness which are key to health service delivery.

This study found that scale-up was negatively perceived by some facility staff since it was seen to be interfering with the routine delivery of services, for example, through increased workload due to scale-up, inadequate staffing, limited political will among other reasons. Other reports have shown HIV epidemic doubled with scale-up has accelerated this "brain drain" by increasing workloads, demoralizing workers, and exposing workers to the risk of infection (Tawfik, 2006). Some departments in the health facilities had as few as one qualified staff. The situation was even worse for technical staff particularly in provincial hospitals where their services are based on the available technology for referral services. The rural health facilities were lacking almost all the cadres of staff, moreover the informants reported that most of the staff in the government owned health facilities were seconded by the government and employed by the NGOs. However the situation changed in 2013 where the number of staff increased and thus reduced the burden felt by the few staff that were available previously. This is a clear indication that the staffing norms and policies were not being implemented or evaluated within the health facilities, and therefore there is need for the government to implement strategies like task shifting that will ensure a strengthened health system and sustainability of the staffing positions after the partners withdraw their funding support (Ledikwe et al., 2013b).

Several studies of integration have shown that providers had not received any training in family planning (Sprague, Chersich & Black, 2011) or had limited or dated FP or HIV knowledge and skills (Conway et al., 2011; Kennedy, 2011). This finding was supported by FHI's multi country study that determined that up to two-thirds of providers did not have sufficient training, many

providers were unaware of key guidelines, and there were misconceptions about methods and recommendations (Family Health International, 2010). Community support and investment in provider training and supervision are some of the success factors for integrated services (Kennedy et al., 2011), and providers have also expressed the need for more training on sexually related issues.

Both Malawi and Kenya previously reported public sector health worker shortages, which key informants believed would be heightened by selectively investing in health workers to work in NGO-funded programmes for control of specific diseases such as HIV (Mtonya, 2006; World Bank, 2014). The key informants described the importance of motivation towards staff and level of interest in case of system and service delivery changes could impact both negatively and positively whether staff were willing to accept the implementation of HIV scale-up and integration. The informants also noted that integration could lead to an increase in patient uptake of services and reduce the need for multiple return visits or referrals, which the patients may not seek after leaving the first facility (Scholl, 2011). Health workers in Kenya and Swaziland reported that due to the increased efficiency of services, client satisfaction improves, which in turn has a positive effect on health workers' own satisfaction (Kuria, 2011; Mengistu, 2011; Scholl, 2011). Moreover, some informants reported that many facilities did not have qualified human resource personnel thus leading to delayed service delivery from increased workloads and poor planning. This level of increased irregularity and low staff morale affects the health workers' ability to effectively and efficiently manage staffing for their health facilities. The informants raised issues with service delivery in the rural health facilities, where staff availability was a concern especially in the provision of emergency services during odd and wee hours, weekends and at night. The rural regions were the most highly affected by the lack of staff to

offer services to the public since the few staff in the facility were most likely overburdened and tired. A multi-country study of FP/HIV integrated services by Family Health International (Family Health International) found that "up to two-thirds of providers had some 'non-busy' time during the day, indicating workloads do not preclude offering additional services" (Family Health International, 2010). These findings are in line with Wachira et al (2014) who found that challenges that prevent successful scale-up efforts included things like paying little attention to sustainability issues, too much emphasis on approaches that are unnecessary in the implementation of scale-up and integration, and overlooking the demand side of the intervention, for example staffing and training (Wachira, Ndege, Koech, Vreeman, Ayuo & Braitstein, 2014) Findings from six studies that focused on providers' experiences with integration reported that the health facility management were more concerned with the effect of high workload on service quality (Dudley & Garner, 2011). This is also in line with the US government report (2012) that reports on 'crowding out' of other available health services due to high workloads (United States Government, 2012). The main concern is that workload issues may also contribute to staff attrition.

5.1. Objective 5: Proposal on a model for Sustaining HIV Scale-Up and Integration

The findings of this study show that integration of other non-HIV services into HIV service delivery is possible, and therefore it proposes a model that can be used to enhance HIV scale-up and integration of services within the Kenyan health facilities. This model can be used by stakeholders and implementers within the government and health facilities in decision making to improve and sustain service delivery and equitable access to health care. Most of the areas within the model are already available through frameworks like the WHO framework, 2002, but

emphasis is on strengthening them to ensure that they are useful and also to ensure that scale-up and integration are sustained.

The proposed model for service delivery indicators in HIV scale-up and service integration focuses on the problem that lies within the Kenyan health care service delivery system, and cascades to the different county health facility levels. The primary health care system in the country relies on human resource capacity from nurses who prescribe drugs to patients, and supported by the county level medical officers. The greatest challenge is capacity of health care workers due to the strain brought about by an increase in patients at all the levels of care due to the HIV epidemic. For the proposed model to work there is need to improve general service delivery of health especially in resource limited areas. This model adopts the building blocks within the WHO framework that covers all the essential details including government-driven policies that guide implementation within the counties, focusing on service delivery, governance, health workforce and health financing, and the tools required for integrated management of health service delivery that provide an efficient approach in the implementation of multiple interventions within the different health facility levels, while ensuring that there is adequate support within the health system in terms of human resource and quality care provided to patients. It consists of simplified and standardized approaches needed in expanding access to treatment, prevention and care services that can be decentralized and implemented across the counties. This should result in a stronger health care system, improved patient care and referral system, stronger service integration and improvement internal and external data and service communication.

The proposed framework is categorized into childhood diseases integrated and managed together, for example integration of childhood immunizations with services such as circumcision, early infant diagnosis among others in an effort of standardizing child health services within the different counties. The second category is integration and management of adolescent and adult diseases in an effort to strengthen HIV programmes in the prevention, care and treatment programs as well as integrating them within other non-HIV diseases like malaria and TB and finally, integration of pregnancy and delivery services. The three categories of models are interlinked and will supplement each other in supporting scale-up and integration of HIV services with other non-HIV services within the primary health care system.

The proposed model will be implemented under a proposed framework (Table 13) in ensuring an increase in access to quality integrated HIV service delivery. The model and framework build on the existing and available resources, however there is need to reinforce staff prior training, empower and build capacity within the health workers, patients, community and stakeholders through provision of proper, simplified and updated guidelines, capacity building, strong mobilization of all stakeholders and applying a patient-centered approach and integrated tools in monitoring and evaluating the model activities.

Table 13: Proposed framework for HIV service delivery and integration with non-HIV services for sustainability

Context	**Category (based on WHO framework and study objectives)**			
Inputs	Service delivery	Human resources	Financial resource	Health Infrastructure
Activities/Enablers to service delivery	• Government and policy driven activities and decisions • Health facility management activities and decisions • Health care staff activities and decisions			
Outputs	• Standardized government driven policies and tools that guide on HIV scale-up and non-HIV services integration • Capacity building and strengthening the county health network, *i.e.* Access to training for different cadres of staff • Enhanced stakeholder partnerships and community participation • Patient-centered quality care • Strengthening the HIV clinical team *e.g.* task shifting and task sharing, engaging lay health care workers			
Immediate outcomes (direct)	• Positive uptake to HIV scale-up and service integration • Staff engagement, satisfaction, empowerment and motivation • Increased knowledge by health care staff and workforce - health workers feel confident and competent to take on new tasks after their initial training. • Improved supplies and drugs purchases and stock-ins			
Intermediate outcomes	• Transparency and accountability • Improved monitoring and evaluation systems • Patient satisfaction – more new patients are able to access health care services every month • Sustainability of scale-up and integration efforts within the health facilities			
Final outcomes	• Sustainability and accountability of scale-up and integration efforts in the country • Better/improved service delivery • Better health outcomes			

This framework complements the WHO conceptual framework used in this study. Decision making within the framework rotates around stakeholders, the national government and health facility managers. This framework proposes that decision making should also involve the junior staff within the health facilities since they are the actual implementers of the interventions. Health workforce deficiency was noted as a key outcome in the study, and this was contributed

by rise in workload following HIV scale-up and non-HIV service integration, however a lasting solution is needed and this model and framework proposes that there should be a scale-up in staff training and an opportunity provided to everyone to train and be empowered through this kind of engagement. This will lead to an increase in knowledgeable staff who are motivated to provide quality patient centered care and further cascade to patient satisfaction and frequent access and uptake to health care services and hence better health care. This proposed model and framework calls for improved monitoring and evaluation systems that are transparent and accountable thus contributing to sustainability of service delivery and access to health care.

The outputs in the model and framework are aimed towards decentralization of service delivery. The findings of the model will demonstrate that through HIV scale-up and service integration, service delivery can been decentralized such that the marginalized facilities in the rural areas are able to offer the same services provided in the urban facilities. This will therefore contribute to efficient service delivery and continuity of quality health care.

CHAPTER SIX: CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1. Conclusions

Scaling up HIV services has been both successful and challenging; especially in resource limited countries like Kenya. However, despite the availability of these scale-up interventions, integrating non-HIV services into HIV care has not been easy in Kenya and the Nyanza province, however, the experiences in this study indicate that financial stability through provision of adequate resources to the government-owned health facilities and political will to implement the gaps identified are the key drivers to successfully sustaining these efforts. Therefore there is a need to ensure that the current scaled-up responses to HIV/AIDS through integration of other non-HIV services must be maintained and strengthened. This study has tried to show evidence on the impact of HIV scale-up on non-HIV service delivery in three different settings, in two different time periods and it therefore concludes that the evidence is mixed with most of the impact being positive with some aspects that still need development. Excellent health policies exist in the region, especially within the national government but the greatest challenge is their implementation, and the challenge is on implementing national policies within a county. Efforts are needed for the government national policies to be standardized in a way that will make it easy for the county to implement. Despite this, structural resources that have taken place due to political will and government support has seen the sustenance of infrastructural upgrades and renovations from scale-up effort thus resulting in increased uptake and integration of both services, and adequate service delivery to majority of patients. However, some of the challenges that have been raised include staff turnover and increased workload. Overally, the descriptive findings in this study show that HIV scale-up has largely contributed to the increase in service delivery and utilization.

From the data it is also clear that specific attention for addressing the greatest health inequities in treatment and disease management access must be considered, in order to prevent poverty, transform the economy within the counties and reach out to those who are in greatest need of health care. At the same time, there is need for a system that can help in assuring that quality health services and medicines are provided and such a system can only be achieved through continuous monitoring and evaluation of the systems and policies in place. This study proposes a framework to help address this gap. This is also in line with universal health coverage that calls for universal access to quality health services that is affordable, and much of this was achieved in the MDGs of 2015 that had three health targets which showed some great outcomes by 2015 (UN, 2015). However there was a call for more work to be implemented in the achievement of these goals. In an effort to complete the unfinished agenda of the MDGs, the SDGs were created in 2016, and these will run till 2030. The main health agenda of SDG 3 - 'Ensure healthy lives and promote well-being for all at all ages'- is to ensure health equity, universal health coverage and financial security among all people ref. This study has further contributed to knowledge that will assist in the implementation of the SDG goals related to child health, maternal health, tuberculosis, non-communicable diseases, sexual and reproductive health and universal health coverage. The findings also suggest that HIV programmes have been integrated with TB management and other programs to provide access to health and interventions that support the efficient and maximal use of available resources. There is a need to continuously strengthen the integration of HIV with other non-HIV diseases to allow for a holistic and patient centered service delivery especially in resource-limited settings like the one in this study.

One of the major challenges that the success of this initiative will face is access to long-term financing for infrastructure development. It is also clear that sustainability is unlikely without

integration. Although numerous implementation challenges exist, the progress made so far is a positive sign that the goal of universal coverage and access is viable and will be achieved. The investigator proposes using seven areas from scaling-up HIV service delivery and integration of other non-HIV services into HIV care in order to address this challenge, however there is need for more research and work in this area of service integration and delivery. This framework can be used as a guide for stakeholders in the sustainability of already implemented HIV and non-HIV services and programs.

6.2. Limitations

The study had a few limitations and some of them included the sample size chosen. Although the study was designed to collect data from a purposive sample of counties, these study three settings provided a unique opportunity to compare three different populations experiencing different service delivery needs thereby aiding in capturing real and targeted information within two study periods and allowing for comparison. Moreover, the qualitative data collected in the study allowed for measurement of validity of the study findings through the opinions and experiences of the informants and health facility within the sampled facilities and counties.

Since this research is restricted to the analyses and investigation of impact of HIV scale-up on non-HIV services, the review of the literature suggests that there is a wide range of issues that might have some impact on non-HIV service delivery. This study was majorly carried out using the government owned Health Management Information System (HMIS) records department at the province, county and health facility levels. The main limitation included incomplete records for the study years, and different facility data were missing for more than one time period. To address this limitation, the incomplete health records were omitted from the analysis. In the end, this led to a reduction in the number of facilities in the analysis of the study data. The

information from certain key informants and health facility staff was rather difficult to access. Some were out of their office for prolonged periods while some needed permission from their national headquarters to divulge any info. Most of the health facility staff that were interviewed were mainly those involved in HIV scale-up programmes, however they were very careful with the kind of information that they divulged. It would have been desirable to also interview the junior health workers who were not part of the management and decision makers in order to get an objective view of the study findings.

Secondly, despite the fact that routine health facility data collected from the health facilities had some limitations, several conclusions were made from those findings. However generalizability of these findings may be limited to the counties sampled for now. It should be known that there were errors in data entry and reporting (Subramanian, Naimoli, Matsubayashi & Peters, 2011) despite steps taken to ensure valid data. As explained in Chapter 4, in this study, there were some routine facility data that were missing from the provincial health information systems during data collection and this prompted the collection of data from the county and health facility itself. Such gaps may suggest negligence in standardizing and reporting health facility data, but at the same time appreciating efforts made by the government in rolling out the use of a central data health information system. For example, there are facilities that had missing records of data because all the data had been submitted to the provincial office and the facility did not retain a copy of the data. This is not only special to Kenya, but other countries also give more priority to national data than facility data, and it remains the greatest challenge facing the uptake of health information systems in the study setting where the needs and requirements at the facility level where data is generated are neglected (Ekirapa et al., 2013).

Some of the findings were based on experiences and perceptions of health facility staff and key informants, however there was data collected from the health facilities that showed some level of agreement with the interviews thus suggesting the reliability of the study findings. The views and opinions of the health facility staff and informants, together with data collected from the three counties may not be representative enough for all the other health experts and health facilities in the country. This study was based only on experience within the counties and it is suggested that a follow up study considers the correlation between policies in Kenya against the international policies that support the funding of most of the HIV programs within the study sites. In support of this it may have been useful to include a few international health experts or informants to get their views on the situation in Kenya. .

Lastly, most of the key staff in public health facilities were reluctant to provide the required information, especially those in the urban region fearing for the confidentiality and anonymity of their responses even after convincing them that their identities would be protected as per ethical requirements of conducting the study. Some management staff in the health facilities demanded for money and other benefits like lunch and drinks to participate in the study, this is not new nor is it isolated only to Kenya, but is very common in settings such as these.

6.3 Implications of the study findings

The findings indicate that there is need to put in place measures that can contribute to strengthening the health systems while scaling up HIV services in the different levels of health facilities. The significance of these study findings is on the probability approach that was used in selecting the health care facilities, and this helped in controlling bias in health facilities selection, especially those known to have benefited from scale-up or those that had non-HIV priority

services benefiting from scale-up. From the findings it is also seen that a lot of HIV-related research was taking place in the study regions due to the HIV disease burden, increased donor funding for research and scarcity of resources. Therefore many partners and funders have a large interest in HIV service delivery that may also compromise delivery of non-HIV services, thus the need to assess the impact on both levels.

Secondly, the government has shown enormous commitment at different levels of the health facilities, i.e., provincial, district, sub-district and lower levels, in the implementation of a comprehensive integration strategy that involves a number of interventions over extended certain period of time. The broader significance of this study is on how it has illustrated and shown its potential in generating useful evidence, both nationally and locally, through collection of routine health facility data and qualitative interviews. Availability of monitoring and evaluation systems have contributed towards making informed decisions on the progress made so far HIV service delivery and integration within these health facilities.

6.4 Areas for further research

In this study, a lot of attention was put on routine health facility data of both HIV and non-HIV services directly from the health facilities. This study has therefore shown that it is feasible to collect health facility data directly from the health facility to demonstrate the performance and uptake of non-HIV services in facilities that have benefited from HIV scale-up, and therefore efforts should be made to replicate this approach to larger sample sizes in bigger populations in order to capture the most relevant data.

Some findings should be of concern, for example, the degree to which the Kenyan government is putting emphasis on free HIV treatment, its practicality and how its influencing policy with

respect to other health services. This study found that patients are often required to cover co-payments for medications, laboratory tests for opportunistic infections among other services.

Based on these conclusions the investigator suggests the following recommendations:

6.4.1 Recommendations for research

- There is need to develop and focus on strategies that can be used to rapidly expand HIV service delivery and access in lower level facilities like dispensaries that are often overlooked, in an effort of strengthening the primary health care systems.

- The study findings need to be replicated across a larger and more representative sample of facilities, including those that are less subject to research, and across other countries.

- There is need to determine and define the specific services and innovations that should and should not be scaled-up. For now it is too general and not very clear.

- There is need to collect regular information on the number of patients under HIV service delivery that are screened for TB and malaria, and thereafter linked to the appropriate care, this data will be useful in monitoring HIV scale-up progress and success in terms of population coverage.

6.4.2 Operational recommendations

- The government should develop strategies to sustain staff positions once the external donors reduce or withdraw their support.

- The characteristics of scalable interventions and priority non-HIV services within the health care system should be clearly defined.

- There is need to create a framework for continually analyzing HIV scale-up and service integration

- For successful facility level integration, there remains room for further capacity building for the health workforce through continuous training in management and professional skills. This will help in continuous quality improvement and build skills among all staff in the effort to scaling-up HIV and non-HIV programs and also promote efficiency in the management of health systems and service delivery within all the health facilities.

6.4.3 Recommendation for policy

- Need for a long-term view of HIV scale-up and delivery of non-HIV services should be identified with an effort of eliminating status quo and controlling on factors that derail scale-up and integration

- A standardized policy on HIV scale-up and service integration should be developed by the national government and distributed for implementation by the counties.

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Appendix 1: Letter of Information

RESEARCHER :

SUPERVISOR :

Dear sir/madam

I am a student at the Durban University of Technology pursuing a doctorate Degree in Health Sciences. Currently I am carrying out a project to look at the impact of HIV/AIDS scale-up on non-HIV priority services in Nyanza Province. The purpose of this letter is to kindly request you to participate in the study by completing the attached questionnaires. All the information collected will be treated as strictly confidential. Your cooperation and support in this study will be highly appreciated. Please take part in this study. The following information will tell you about the study and your part in it. Please listen carefully and pay much attention. Feel free to ask any questions.

Background

In any society, there are problems that need to be addressed so that the community can have a solution to their problems. Some of these problems can be solved amicably with the help of research in any community that will be able to find the root cause and offer solutions based on the findings. Again the Government can conduct a research in any given part of the country or use any research institution's findings to offer any help to the affected population. It is through this that any Institution or nation can budget for its people without management by crisis.

Purpose of the Study

The researcher is conducting a study to find out how HIV scale-up has impacted on service delivery of other non-HIV services. Factors like effective service delivery and leadership, health workforce, health information systems, as aspects of HIV program scale-up can influence delivery of non-HIV services in public health facilities; case study being Kisumu, Homabay and Nyamira counties in Nyanza province. These areas have been chosen for the study due to their varying HIV prevalence rates. The researcher is conducting this study towards achievement of her doctorate. She hopes that the results will be shared at several national and international forums. She also hopes that through laying a foundation with this research study, the pilot data will be used for development of future studies and interventions.

Procedures to be followed

If you agree to take part in this study, you will get a list of questions about the impact of HIV scale-up on non-HIV service delivery to answer. Remember that this is NOT a test or examination.

Voluntary Participation

You may choose not to be in this study. You can leave the study at any time. You will not get into any trouble or lose any benefits. We will need permission from you before you can take part in this study. A copy of this letter of information will be given to you.

Study Eligibility

Health facility staff and key health informants will be requested to participate in this study. The study intends to recruit 66 health facility managerial staff and 10 key health informants using both random and purposive sampling to participate in the study.

Risks and Benefits to participant

There will be no risks from participating in this study. After the end of the study, following data cleaning and analyses, the main study findings will be disseminated to participants by the researcher with the aid of a brochure containing a written summary in English.

Annual updates of study progress will be shared with the provincial medical administration during the conduct of the study. After the end of the study, following data cleaning and analyses, the main study findings will be disseminated to the stakeholders by the researcher through meetings with the existing networks of key stakeholders.

Findings of this study will be shared with study participants, provincial health office and stakeholders, at professional conferences, and in peer-reviewed journals. Publication of the results of this study will be governed by DUT Faculty of health research policies. Any presentation, abstract, or manuscript will be made available by the researcher to DUT for review and approval prior to submission.

The study will provide information that may benefit the participants and their communities in future studies. Participants will be informed their participation in the study will provide information that will form the basis of an intervention/future study that will benefit both participants and non- participants.

Compensation

No money will be paid for taking part in this study.

Privacy

All records will strictly be kept private. Nobody but the researchers in this study will see your records and your name will not be attached to any documentation or in any publications written from this study. The information will be used to assist understand service delivery and make proposals if necessary

In case you will have more questions about the evaluation in future, you can get in touch with the people in charge of the exercise using the contact details provided below:

Valarie Opollo

P.O. Box 1578-40100 Kisumu, Kenya,

Email: valopollo@yahoo.com

Tel: + 254 723 903 176

Lina Threethambul Puckree (Prof)

Durban University of Technology

P.O. Box,

Email: puckreet@dut.ac.za

Tel:

Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382 or dvctip@dut.ac.za

Appendix 2: Consent form

Statement of Agreement to Participate in the Research Study:

I hereby confirm that I have been informed by the researcher, _____ (name of researcher), about the nature, conduct, benefits and risks of this study - Research Ethics Clearance Number: _____,

I have also received, read and understood the above written information (Participant Letter of Information) regarding the study.

I am aware that the results of the study, including personal details regarding my sex, age, date of birth, initials and diagnosis will be anonymously processed into a study report.

In view of the requirements of research, I agree that the data collected during this study can be processed in a computerized system by the researcher.

I may, at any stage, without prejudice, withdraw my consent and participation in the study.

I have had sufficient opportunity to ask questions and (of my own free will) declare myself prepared to participate in the study.

I understand that significant new findings developed during the course of this research that may relate to my participation will be made available to me.

_____ _____ _____ _____

Full Name of Participant Date Time Signature / Right Thumbprint

I, _____ (name of researcher) herewith confirm that the above participant has been fully informed about the nature, conduct and risks of the above study.

_____ _____ _____

Full Name of Researcher Date Signature

_____ _____ _____

Full Name of Witness (If applicable) Date Signature

_____ _____ _____

Full Name of Legal Guardian (If applicable) Date Signature

Appendix 3: Request of permission

Department of Research and Training

Tel: 057-2020801/2020803 Fax: 057-2024337

The Secretary

Ethical Review Committee (The Global Fund to Fight AIDS)

Jaramogi Oginga Odinga Teaching and Referral Hospital (JOOTRH)

P. O. Box 849,

Kisumu

Dear Sir/Madam

Request for Permission to Conduct a Study

I am a student registered for a Doctorate in health science at the Durban University of Technology. My study topic is "**Impact of HIV scale-up on non-HIV priority services in Nyanza Province, Kenya."**

Scaling up HIV programs is a critical step for scaling up a range of interventions in HIV/AIDS prevention, care, treatment and support. An unprecedented infusion of financial and technical resources in recent years has brought HIV prevention, care and treatment services to millions of people in sub-Saharan Africa, this has shown that the humanitarian benefits of HIV scale-up are evident, but questions have been raised about its impact on other health services, and on broader health systems in resource-limited settings.

The study aims to assess the impacts and factors, and determine the effects of HIV/AIDS scale-up on non-HIV priority services in Nyanza Province, Kenya by looking at service delivery and population coverage trends of non-HIV priority services in health facilities where there have been rapid scaling up in the delivery and coverage of HIV services; the beneficial or detrimental effects of HIV scale-up on other non-HIV priority service delivery and coverage in Nyanza province; the elements that characterize HIV programs that have successfully enhanced non-HIV service delivery; perceptions, attitudes and experiences of facility personnel towards scale up, and finally to develop a model of indicators for service delivery in HIV/AIDS scale-up.

The study will utilize both quantitative and qualitative approaches. A quantitative cross-sectional survey will be conducted in health facilities within three counties; Kisumu, Homabay and Nyamira, of Nyanza province. Nyanza province has got the highest HIV prevalence of 15.1% out of the 8 provinces in the

country. The three counties have been chosen because of their varying prevalence rates within the Province. Retrospective chart reviews will be done for selected health facilities within the three counties. Through proportionate stratified random sampling of health facilities within the three counties, a proportional sample of 73 health facilities by category will participate in the study. Purposive sampling will be used to select the 146 health facility managerial staff and the 10 key health informants. A data collection chart review tool, in-depth interview guide and questionnaire will be the instruments used for data collection.

The data collection instruments will be validated using a test-retest method. Confidentiality and anonymity of both the participants will be maintained at all times. Feedback and recommendations will be given at the completion of the study.

Permission is hereby requested to conduct the study at Nyanza province in the three counties listed. All participant information will be kept confidential and the outcomes will be reported to you. Ethical approval will be obtained from the Durban University of Technology Institutional Research Ethics committee and JOOTRH ethical review committee.

The study will not impact on the participants work in any way but the results may be useful in determining gaps in management of non-HIV conditions and strategies on how the gaps can be improved either through potential policy modifications or other means.

Please contact any of the persons below for further information

Person to contact in the event of any problems or queries:

Researcher: Valarie Opollo Tel: 0723903176

Supervisor: Prof T. Puckree Tel: 031 373 2704

Institutional Research Ethics administrator: Tel: 031 373 2900

Complaints can be reported to the DVC: TIP, Prof F. Otieno on 031 373 2382.

Thank you

Valarie Opollo …[redacted]……

12-06-2014 Prof. T Puckree (Supervisor)

Date: Date:

Appendix 4: Chart Review Data Sheet

HEALTH FACILITY ASSESSMENT SURVEY COVER SHEET
1. Facility Identification
001 NAME OF FACILITY 002 LOCATION OF FACILITY (TOWN/CITY/VILLAGE) 003 PROVINCE . . . . . . 004 DISTRICT . . . . . . 005 FACILITY NUMBER . . . . . .
006 TYPE OF FACILITY NATIONAL REFERRAL HOSPITAL . . . . . 01 PROVINCIAL HOSPITAL . . . . . 02 DISTRICT HOSPITAL . . . . . 03 SUB-DISTRICT HOSPITAL. . . . . 04 OTHER HOSPITAL . . . . . .05 HEALTH CENTRE . . . . . 06 CLINIC . . . .07 DISPENSARY . . . . 08 MATERNITY . . . . 09 STAND-ALONE HTC/VCT . . . . . 10 007 MANAGING AUTHORITY (OWNERSHIP) GOVERNMENT/LOCAL MUNICIPALITY. . . . . 1 NGO/PRIVATE NOT FOR PROFIT . . . . . 2 PRIVATE-FOR-PROFIT . . . . . 3 MISSION/FAITH-BASED 4
2. Information about Interview 008 DATE. . . . . MONTH . . . . . YEAR . . . . . . 009 Name of the researcher RESULT CODES (LAST VISIT): 1 =COMPLETED 2 =RESPONDENT NOT AVAILABLE 3 =REFUSED CHECKED BY: 4 =PARTIALLY COMPLETED 6 =OTHER

1. NON-HIV SERVICES

1a. Family Planning Services

	Facility number:	interviewer code:			
No.	QUESTIONS	CODING CLASIFICATION			GO TO
100	Does this facility offer any family planning services—including clinical methods, counseling on natural family planning or surgical sterilization?	YES ..... 1 NO 2			
101	Which of the following contraceptive methods are provided, prescribed, or counseled about in this facility?	PROVIDED	PRESCRIBED/ COUNSELLED	NOT OFFERED	
	Combined oral pills	1	2	3	
	Progestin-only pills	1	2	3	
	Combined Injectable (1 monthly)	1	2	3	
	Progestin-only Injectable (2 monthly)	1	2	3	
	Progestin-only Injectable (3 monthly)	1	2	3	
	Male condom	1	2	3	
	Female condom (e.g. FEMIDOM) Intrauterine Contraceptive Device (IUCD)	1	2	3	
	Implant	1	2	3	
	Emergency contraceptive pill	1	2	3	
	Natural family planning methods (e.g., Rhythm, LAM)	1	2	3	
	Standard Days Method (SDM) - Beads	1	2	3	
	Male sterilization (Vasectomy)	1	2	3	
	Female sterilization (Tubal ligation)	1	2	3	
	Others _____ (SPECIFY)				
102	Does this facility have any routine user-fees or charges for any services related to family planning? This includes any fees, including those for registration, family planning cards or booklets, lab investigations, or contraceptive methods?	YES..... 1 NO. 2			105
103	Please tell me if any of the following user-fee or charging practices are ever applied by this facility for family planning services, and the amount of the fee.	a) FEES YES	NO	DON'T KNOW	(b) AMOUNT IN KSH
01	Fee for the client family planning card or booklet	1	2	8	
02 03 04	Fee for the consultation service? EITHER FIRST OF FOLLOW-UP VISIT	1	2	8	
05	Fee or charge for the method provided	1	2	8	
06 07	Is there a different fee depending on the method provided?	1	2	8	
	Fees or charges for laboratory tests	1	2	8	
	Fee for registration	1	2	8	
	Are discounts or exemptions from fees allowed for some clients?	1	2	8	
104	Are any of the following guidelines or protocols for delivery of services available in the health facility?	YES	NO	DON'T KNOW	
	Guidelines or protocols on family	1	2	8	

	planning			
	Guidelines for HIV/FP Integration	1 2 8		
	National guidelines for STI/RTI diagnosis or treatment	1 2 8		
105	Please tell me the total number of family planning procedures in this facility for the year under study	QUARTER 1	QUARTER 2	QUARTER 3
	Total number of family planning visits by clients			
	Number of family planning adherence			
	Number of clients who received HIV services within the family planning clinics			
	Number of HIV infected women who received family planning services at first post-natal visits			
	Are family planning services routinely provided for all HIV positive clients?	YES, ALWAYS ..... 1 YES, SOMETIMES .....2 NO 3		
106	Staff and training	YES NO DON'T KNOW		
	Is there at least one staff member providing the service trained in the last two years in some aspect of FP	1 2 8		

1b. Antenatal and Postnatal Care (ANC/PNC)

	Facility number:	Interviewer code:	
No.	QUESTIONS	CODING CLASIFICATION	GO TO
107	Does this facility offer antenatal (ANC) services, postnatal (PNC) services, or both? INDICATE THE SERVICES OFFERED.	YES, ANTENATAL ONLY . . . . . 1 YES, POSTNATAL ONLY . . . . . .2 YES, BOTH ANTENATAL AND POST NATAL ..... 3 NO, NEITHER SERVICE	
108	Does this facility have any routine user-fees or charges for any services related to antenatal care services? This includes any fees, including those for registration, client health card/mother-baby booklet, medicines or laboratory investigations?	YES ..... 1 NO..... 2	
109	Please tell me if any of the following user-fee or charging practices are ever applied by this facility for antenatal care services:	a) FEES YES NO DON'T KNOW	(b) AMOUNT IN KSH
	Is there a fee for each consultation?	1 2 8	
	Are there fees for medications?	1 2 8	
	Are there fees for laboratory tests?	1 2 8	
	Is there a fee for registration?	1 2 8	
	Are discounts or exemptions from fees allowed for some clients?	1 2 8	
110	Which of the following types of treatment and services are routinely offered to antenatal clients?	YES NO DON'T KNOW	
	Counseling on the 4 recommended ANC visits	1 2 8	
	Preventive antimalarial medication (IPT)	1 2 8	
	Counseling about family planning	1 2 8	
	Counseling about HIV/AIDS/PMTCT	1 2 8	
	Testing for HIV/AIDS	1 2 8	

111	How many postnatal visits took place during the previous 12 completed months?	NUMBER OF PNC VISITS:	
112	Record the number of months of data represented in previous question.	MONTHS OF DATA	
113	What is the estimated annual rate of PNC coverage for this facility?	PNC % COVERAGE..... DON'T KNOW	
114	Record the source of information for estimated percent of postnatal care coverage.	WRITTENREPORT ..... A GRAPH/ CHART ..... B OTHER (SPECIFY)…….. X SOURCE NOT KNOWN……..... Z	
115	What is the estimated annual rate of ANC coverage for this facility?	PNC % COVERAGE ..... DON'T KNOW	
116	Record the source of information for estimated percent of antenatal care coverage.	WRITTENREPORT ..... A GRAPH/CHART ..... B OTHER (SPECIFY)…….. X SOURCE NOT KNOWN..... Z	

117	NOTE THE AVAILABILITY OF PROTOCOLS AND TEACHING MATERIALS.	AVAILABLE	NOT AVAILABLE	DON'T KNOW
	Guidelines or protocols for antenatal care	1	2	8
	Other guidelines and protocols for reproductive health (e.g., maternal, neonatal health)	1	2	8
	Guidelines or protocols for postnatal care	1	2	8

118	Staff and training	YES	NO	DON'T KNOW
	Is there at least one staff member providing the service trained in the last two years in some aspect of ANC	1	2	8
	Is there at least one staff member providing the service trained in the last two years in some aspect of PNC			

1c. TUBERCULOSIS DIAGNOSIS AND TREATMENT

Facility number: Interviewer code:

No.	QUESTIONS	CODING CLASIFICATION				GO TO
119	Types of services offered	SERVICE OFFERED IN THIS FACILITY		NO SERVICE OFFERED IN THIS FACILITY		
		PROVIDE SERVICE THIS UNIT	SERVICE BY PROVIDERS FROM OTHER UNIT THIS FACILITY	REFER CLIENTS OUTSIDE FACILITY	NO SERVICE OR REFERRA	
01	Do providers in this facility make diagnosis that a client has tuberculosis?	1	2	3	4	
02	Do providers in this facility prescribe medicines for treatment of tuberculosis?	1	2	3	4	
03	Do providers in this facility provide follow-up treatment for clients with tuberculosis?	1	2	3	4	
120	Are there any TB-related guidelines or protocols for providers working in this facility? First I would like to ask about national guidelines. ASK ABOUT EACH GUIDELINE/PROTOCOL Do you have [NAME OF GUIDELINE]?	AVAILABLE	NOT AVAILABLE	DON'T KNOW		GO TO

	National Guidelines for the Management of Tuberculosis and Leprosy	1 2 8	
	Manual of the national Tuberculosis and Leprosy program (to operationalize)	1 2 8	
	Any other guideline on the management of TB	1 2 8	
121	Are newly diagnosed cases of TB (or cases followed up by this facility), counselled and tested for HIV?	YES, ALL CASES ..... 1 SUSPECT CASES ONLY..... 2 NO .....3 DON'T KNOW 8	
122	Do you have a register or list of new TB patients who were counselled and tested for HIV? IF YES, ASK TO SEE THE REGISTER OR LIST.	YES, OBSERVED .....1 YES, REPORTED, NOT SEEN…….2 NO 3	
123	How many new TB patients were counselled and tested for HIV/AIDS in the past twelve completed months?	Number of new TB clients referred:	
124	Record the number of months of data represented in previous question	MONTHS OF DATA	
125	Do you have any record of clients currently under TB treatment who are also diagnosed as HIV positive or as having AIDS? YES, ASK TO SEE THE REGISTER/RECORD.	YES, OBSERVED……..... 1 YES, REPORTED, NOT SEEN……2 NO……..... 3	
126	How many patients currently under TB treatment in this facility are also diagnosed as HIV positive or as having AIDS?	NUMBER OF TB CLIENTS WITH HIV/AIDS: DON'TKNOW 9998	
127	Staff and training	YES NO DON'T KNOW	
	Is there at least one staff member providing the service trained in the last two years in some aspect of TB diagnosis and treatment	1 2 8	

1d. Child Health Services

	Facility number:	Interviewer code:	
No.	QUESTIONS	CODING CLASIFICATION	GO TO
129	Does this facility provide any services for children below 5 years of age, either at the facility or on an outreach basis?	YES ..... 1 NO 2	END
130	Now I would like to ask you specifically about services for children under 5 years. For each of the following services, please tell me whether the service is offered by your facility, and if so, how many days per month the service is provided at the facility, and how many days per month outreach services are provided (if any).		
131	Routine DPT-Hib+HepB immunisation (i.e., Pentavalent)		
	Routine DPT immunization		
	Routine polio immunization		
	Routine measles immunization		
	BCG immunisations		
	Routine Vitamin A supplementation		
	Provision of treated mosquito nets to children under 1 year		
	Consultation or curative services for a sick child		
132	Are routine immunisations for children available at the facility today?	YES 1	

		NO 2	
133	Does this facility have any routine user-fees or charges for any child immunisation services? This includes any fees, including those for registration, client health card/booklets, or vaccines?	YES ..... 1 NO. 2	
134	Please tell me if any of the following user-fee or charging practices are ever applied by this facility for child immunisation services, and if so, the amount of the fee:	YES ..... 1 NO. 2	AMOUNT IN KSHS:
135	What is the procedure if a child is unable to pay for any of the fees associated with child immunization services that are indicated above?	Fee exempted/discounted, no payment expected. . . . .a Fee exempted/discounted, payment expected later…….…… b Service not provided, asked to come back when able to pay..... c Payment in-kind..... d other (specify)……..……x	
136	Are there any IMMUNISATION SERVICES guidelines/protocols for providers working in this unit? First I would like to ask about national guidelines. ASK ABOUT EACH GUIDELINE/PROTOCOL Do you have [NAME OF GUIDELINE]?	Available Not available Don't know	
137	National guidelines for immunization or circular (e.g., Performance Monitoring Handbook)	1 2 3	
138	What is the current estimate for your facility's measles coverage? THIS IS AN ANNUALIZED RATE	MEASLES COVERAGE (%) NO COVERAGE RATES . . . . . .1 DON'TKNOW 2	
	What is the current estimate for your facility's DPT coverage. THIS IS AN ANNUALIZED RATE	MEASLES COVERAGE (%) NO COVERAGE RATES . . . . . .995 DON'TKNOW 998	
	What is the current estimate for your facility's polio coverage. THIS IS AN ANNUALIZED RATE	MEASLES COVERAGE (%) NO COVERAGE RATES. . . . . ..995 DON'T KNOW 998	
	What is the current estimate for your facility's BCG coverage. THIS IS AN ANNUALIZED RATE	MEASLES COVERAGE (%) NO COVERAGE RATES. . . . . .995 DON'TKNOW 998	
139	Staff and training	YES NO DON'T KNOW	
	Is there at least one staff member providing the service trained in the last two years in some aspect of child health	1 2 8	

1e. Malaria Diagnosis and Treatment

	Facility number:	Interviewer code:				
No.	QUESTIONS	CODING CLASIFICATION				GO TO
140	First, I would like to know about services for diagnosis and treatment of malaria. For each service I will mention, please tell me if the service is offered in this facility and if providers assigned to this unit ever provide the service, refer clients for the service, or never offer the service at all.	Service offered in this facility		No service offered in this facility		
		Provide service this unit	Service by providers from other unit this facility	Refer clients outside facility	No service or referral	
141	Do providers in this facility make diagnosis that a client has malaria?					
142	Do providers in this facility prescribe					

	medicines for treatment of malaria?		
143	Do providers in this facility provide follow-up treatment for clients with malaria?		
144	Are there any malaria-related guidelines or protocols for providers working in this facility? First I would like to ask about national guidelines. ASK ABOUT EACH GUIDELINE/PROTOCOL Do you have [NAME OF GUIDELINE]?	AVAILABLE NOT AVAILABLE DON'T KNOW	
	National Guidelines for the Management of malaria and Leprosy	1 2 8	
	Manual of the national malaria and Leprosy program (to operationalize)	1 2 8	
	Any other guideline on the management of malaria	1 2 8	
145	Do you have any record of clients currently under malaria treatment who are also diagnosed as HIV positive or as having AIDS? YES, ASK TO SEE THE REGISTER/RECORD.	YES, OBSERVED……..... 1 YES, REPORTED, NOT SEEN……2 NO……..... 3	
146	How many patients currently under malaria treatment in this facility are also diagnosed as HIV positive or as having AIDS?	NUMBER OF TB CLIENTS WITH HIV/AIDS: DON'TKNOW 998	
147	Staff and training	YES NO DON'T KNOW 1 2 8	
	Is there at least one staff member providing the service trained in the last two years in some aspect of malaria		
	During the past three years have any staff received any pre-service (i.e., while studying), or in-service ("on-the job") training on malaria diagnosis and treatment in children?		
	During the past three years have any staff received any pre-service (i.e., while studying), or in-service ("on-the job") training on malaria diagnosis and treatment in adults?		
	Training on Intermittent Preventive Treatment (IPT) of malaria for pregnant women? (prophylaxis)		

2. HIV SERVICES

2a. Counseling and Testing

	Facility number:	Interviewer code:	
No.	QUESTIONS	CODING CLASIFICATION	GO TO
148	Does this facility offer HIV counseling and testing services? i.e., do providers in this facility prescribe or offer the HIV tests, or refer clients to units within this facility or to other facilities for HIV tests?	Yes, HIV counseling only ..... 1 Yes, HIV testing only..... 2 Yes, both HIV counseling and testing services ..... 3 No HIV/AIDS counseling or testing services.....4	
149	Does this facility have a counsellor who has been trained for both HIV pre-test and post-test counselling?	YES NO 1 2	

	Is there at least one staff member providing the service trained in the last two years in some aspect of malaria		
	During the past three years have any staff received any pre-service (i.e., while studying), or in-service ("on-the job") training on malaria diagnosis and treatment in children?		
150	Which staff most commonly provides HIV pre-test counselling for clients in this facility? PROBE FOR RESPONSE THAT IS MOST ACCURATE.	Lay HIV counselors..... 01 Untrained lay personnel.....02 CITC (VCT) counselors from outside unit..... 03 Trained staff from this unit. . . . . 04 Trained and untrained staff from this unit depending on time and staff availability…… 05 Both outside staff and trained staff from this unit provide Counselling, depending on time and staff availability…06 Clients always sent to another unit for pre-test counselling..... 07	
151	Do you conduct HIV rapid testing in this facility?	YES. . . . . 1 NO. 2	
152	Are there any CT-related guidelines/protocols for providers working in this unit? First I would like to ask about national guidelines. ASK ABOUT EACH GUIDELINE/PROTOCOL Do you have [NAME OF GUIDELINE]?	Available Not available Don't know	
	National Guidelines for HTC	1 2 8	
	Algorithm of testing	1 2 8	
	Infection prevention and control (IPC) guidelines	1 2 8	
	PEP guidelines	1 2 8	

2b. ANTIRETROVIRAL THERAPY (Peters)

	Facility number:	Interviewer code:	
No.	QUESTIONS	CODING CLASIFICATION	GO TO
153	Which ARV medicines are prescribed or dispensed in this facility? CIRCLE ALL THAT APPLY. AFTER THE RESPONSE, READ THE NAME OF EACH MEDICINE THAT IS NOT MENTIONED, TO VERIFY THAT THE MEDICINE IS NOT PRESCRIBED OR DISPENSED BY THIS UNIT IF A COMBINATION DRUG IS USED, CIRCLE THE COMPONENTS THAT ARE INDICATED IN LIST (E.G., FOR STAVUDINE+LAMIVUDINE+ NEVIRAPINE, CIRCLE D, B, AND I)	NRTIS ZIDOVUDINE (ZDV,AZT)..... A LAMIVUDINE (3TC). . . . . B DIDANOSINE (Ansa, Walley, Siddiqi & Wei). . . . . C STAVUDINE (D4T) OR D3T. . . . . D ABACAVIR (ABC)..... E EMTRICITABINE (FTC). . . . . F TENOFOVIR (TDF)..... G NNRTIS NEVIRAPINE (NVP)..... I EFAVIRENZ (EFZ)..... J DELAVIRDINE (DLV). . . . . K PROTEASE INHIBITORS LOPINAVIR (LPV)..... L INDINAVIR (IDV)..... M NELFINAVIR (NFV)..... N SAQUINAVIR (SQV)..... O RITONAVIR (RTV)..... P ATAZANAVIR (ATV)..... Q FOSAMPRENAVIR (FPV).....R TIPRANAVIR (TPV)..... S DARUNAVIR (DRV)..... T LOPINAVIR-RITONAVIR (LPV/R)..U FUSION INHIBITORS	

		ENFUVIRTIDE (T-20)..... V OTHER (SPECIFY) X			
154	Are there any fees levied for any services or items related to ARV treatment?	YES ..... 1 NO 2			
155	For each of the following items, indicate if there is any routine fee, and if yes, the amount of the fee	(a)			(b)
		FEE			AMOUNT IN KSHS
		YES	NO	NA	
	ART client cards	1	2	3	
	Consultation service	1	2	3	
	ARV medicines (estimate cost per month)	1	2	3	
	CD4 count	1	2	3	
	Other lab test (specify) (e.g. FHG, U/E/C,LFTS, CBC)	1	2	3	
156	Are there any ART-related guidelines or protocols for providers working in this unit?	Yes, guidelines/protocols available..... 1 No guidelines or protocols……...2			
157	First I would like to ask about national guidelines. ASK ABOUT EACH GUIDELINE/PROTOCOL Do you have [NAME OF GUIDELINE]?	Available	Not available	Don't know	
	National ART guidelines	1	2	8	
	Guidelines for paediatric clients	1	2	8	
	Kenya National Clinical manual for ARV providers	1	2	8	
158	How many adult clients were on care and how many were on treatment in this facility during the study year?	Total number of adults on care: None .....1 Don't know..... 2			
		Total number of adults on treatment: None ..... 1 Don't know 2			
159	How many children were on care and how many were on treatment in this facility during the study year?	Total number of children on care: None .....1 Don't know 2			
		Total number of children on treatment: None ..... 1 Don't know 2			
160	Does this facility provide nutrition rehabilitation services for HIV/AIDS patients? NUTRITIONAL REHABILITATION REFERS TO EDUCATION ABOUT EATING WELL, EARLY IDENTIFICATION OF DEFICIENCIES, PROVID- ING FORTIFIED PROTEIN SUPPLEMENT (FPS). IF YES, ASK: Which of the following are routine components of nutritional rehabilitation services? READ EACH RESPONSE AND CIRCLE ALL THAT APPLY.	Nutritional Counselling..... A Teach early identification of deficiencies..... B Provide vitamins..... C Provide fortified protein supplement…..D Provide high protein foods…….E Provide other diet supplement . . . . . . Other (specify)……X No services…… Y			
161	Number of staff trained in ART prescription and management	Total number of staff trained:..... None:……1 Don't know 2			

	Number of staff trained in clinical management of HIV & AIDS	Total number of staff trained:..... None:……1 Don't know 2	

2c. PREVENTION OF MOTHER-TO-CHILD TRANSMISSION (PMTCT) SERVICES

	Facility number:	Interviewer code:	
No.	QUESTIONS	CODING CLASIFICATION	GO TO
162	Does this facility provide the minimum package of services for PMTCT, i.e., HIV counseling and testing, and provision of ARV prophylaxis regimens?	YES ..... 1 NO 2	END
163	How are the PMTCT services in this facility organized and provided? PROBE TO CAPTURE ALL POSSIBLE WAYS THE FACILITY ORGANIZES PMTCT SERVICES AND CIRCLE ALL THAT APPLY.	Separate PMTCT services ..... a PMTCT and CCC services to get. . . . . b PMTCT with ANC services ..... c PMTCT with ANC and delivery as one system.....d PMTCT with delivery..... e	

164 For each service I will mention, please tell me if providers in this unit or facility offer the service or refer clients for the service, either in this facility or outside, for prevention of mother-to-child transmission of HIV

Service	Service offered in this facility			Refer clients outside facility	No service or Referral
	Outpatient		Inpatient service only		
	Offered this unit	Refer to other unit this facility			
Offer HIV testing	1	2	3	4	5
Offer group pre-test information or counselling	1	2	3	4	5
Offer individual HIV pre-test information or counselling	1	2	3	4	5
Offer individual HIV post-test counselling	1	2	3	4	5
Offer couple counselling for HIV+ women	1	2	3	4	5
Couple counseling to post-partum women (up to 6 weeks)	1	2	3	4	5
Offer counselling on infant feeding to HIV positive women	1	2	3	4	5
Offer counselling on maternal nutrition to HIV positive women	1	2	3	4	5
Offer counselling on family planning	1	2	3	4	5
Offer family planning services	1	2	3	4	5
Offer counselling on condom use for dual protection	1	2	3	4	5
Distribute condoms to PMTCT clients	1	2	3	4	5
Offer ARV prophylaxis for pregnant women	1	2	3	4	5
Offer ARV prophylaxis for newborn	1	2	3	4	5
Provide breast-milk substitutes for newborns of HIV positive women	1	2	3	4	5
Offer follow-up counselling for HIV positive women on linkage to long-term care	1	2	3	4	5
Offer ARV therapy (long-term treatment) for HIV positive women	1	2	3	4	5
Offer ARV therapy for family members of HIV positive women	1	2	3	4	5
Offer women-to-women support group services	1	2	3	4	5
Offer PMTCT services in labor and delivery services	1	2	3	4	5
Offer follow-up services for HIV-exposed babies	1	2	3	4	5
Routinely offer TB screening to PMTCT clients	1	2	3	4	5
Offer follow-up services for TB-exposed babies	1	2	3	4	5

165	Record the following information for ANC clients,	Numbers from observed

	It may be necessary to review ANC as well as PMTCT records to collect the information.	records	
		Number of clients	MONTHS OF DATA
	Total HIV positive women receiving counselling on family planning in past 12 mos.		
	Total HIV positive women receiving infant feeding counselling in past 12 months		
	Total HIV positive women receiving couples counselling in past 12 months		
166	Are there any PMTCT-related guidelines/protocols for providers working in this unit? Guidelines that are posted on the wall are acceptable. IF YES, ASK: May I see all the guidelines and protocols that are available here?	Yes, guidelines/protocols available .....1 No guidelines or protocols……2	GO TO
167	First I would like to ask about national guidelines. ASK ABOUT EACH GUIDELINE/PROTOCOL Do you have [NAME OF GUIDELINE]?	Available Not available Don't know	
	Guidelines for Prevention of Mother to Child Transmission (PMTCT) of HIV/AIDS in Kenya	1 2 8	
	Early Infant Diagnosis protocol	1 2 8	
	Any other guidelines for PMTCT services?	1 2 8	
	National PMTCT guidelines	1 2 8	
	National HTC (VCT) guidelines	1 2 8	
168	What is the most common procedure followed for offering HIV testing to pregnant women? RECORD THE RESPONSE THAT BEST REFLECTS THE PRACTICE. PROBE IF NECESSARY.	Offered when voluntarily requested by pregnant woman. . . . . 1 Offered to all ANC clients at first visit….2 Offered selectively to ANC clients at first visit, based on social/medical history. .. .3 other……6 (specify)	
169	Now I would like to look at ANC records, including those that provide information on any PMTCT counselling and testing services Do you have a record or register of the total number of first-visit ANC clients over the past 12 months? IF YES, ASK TO SEE THE RECORD/REGISTER.	Yes, observed .....1 No 2	
170	Record the total number of first visit ANC clients during the past 12 months.	Number of first visit ANC clients:	
171	Indicate number of months of data available in previous question	Months of data	
172	Ask to see any record or register of ANC clients who received HIV test or counselling services during the past 12 months, and record the correct response	NUMBER OF CLIENTS:	MONTHS OF DATA
173	Total ANC clients who got an HIV test		
	Total ANC clients who received HIV test results		
	Total ANC clients with positive HIV test		
	Total ANC clients with positive (Abuja +12) HIV test who received test results		
174	Among the women for whom testing information was available (q178) indicate if information on receiving ARV and on their newborn is available. If information only available in delivery area, circle '2'.	NUMBER OF CLIENTS	MONTHS OF DATA
175	Number of HIV positive women who were provided ARV for PMTCT		
	Number of infants born to HIV positive women		
	Number of newborns of HIV positive women who were provided ARV prophylaxis		
	Number of HIV positive infants.		

176	Are there any fees charged for any services or items related to PMTCT services?	YES..... 1 NO 2			
177	For each of the following items, indicate if there is any routine fee, and if yes, the amount of the fee	YES	NO	NA	AMOUNT IN KSH
	Fee for HIV test	1	2	3	
	Fee for antiretroviral prophylaxis for mother	1	2	3	
	Fee for ART for mother	1	2	3	
	Fee for antiretroviral prophylaxis for newborn	1	2	3	
	Fee for CD4 test	1	2	3	
	Fee for Hb test	1	2	3	

3. Indicators for intra-facility correlations in service trends between HIV and non-HIV services

	Facility number:	Interviewer code:	
No.	QUESTIONS	CODING CLASIFICATION	GO TO
178	Total clients who visited both:	Number of clients	
	ART and Antenatal clinic		
	ART and Family planning clinic		
	ART and children vaccinations		
	ART and malaria diagnosis		
	ART and TB diagnosis		
	PMTCT and Antenatal clinic		
	PMTCT and Family planning clinic		
	PMTCT and children vaccinations		
	PMTCT and malaria diagnosis		
	PMTCT and TB diagnosis		
	VCT and Antenatal clinic		
	VCT and Family planning clinic		
	VCT and children vaccinations		
	VCT and malaria diagnosis		
	VCT and TB diagnosis		

4. Indicators for drugs and commodities normally stocked and stock-outs

	Facility number:	Interviewer code:		
No.	QUESTIONS	CODING CLASIFICATION		GO TO
179	Ask if the items listed are stocked/ carried in the facility. IF YES, THEN PROCEED TO COLLECT INFORMATION ON STOCK OUT FREQUENCY	A Is product normally stocked in facility	B Stock out during past 6 months	C Stock outs during past 12 months
	Product	1=YES 2=NO If 2, Skip to next item	1=YES 2=NO 3=DK	1=YES 2=NO 3=DK
180	ARV first-line			
	ARV second-line			
	Lamivudine			
	Rifampicin			
	Cotrimoxazole			
	Artermether-Lumefantrine (AL, COARTEM)			
	Male condom			
	Female contraceptives			
	Iron tablets			
	Rehydration salts			
	Ergometrine			
	Oxytocin			
	IV giving test			
	Syringes			
	Gloves			
	BCG and diluent			

	Isoniazid					

5. Support services that are commonly needed by people with HIV/AIDS.

	Facility number:	Interviewer code:				
No.	QUESTIONS	CODING CLASIFICATION				GO TO
181	Find about various support services that are commonly needed by people with HIV/AIDS. For each service, do providers in this unit provide the service themselves, or if they refer clients for the service. IF YES FOR REFERRAL, PROBE FOR WHETHER THERE IS A WRITTEN DOCUMENT LISTING THE REFERRAL SITE OR IF THE PROVIDER CAN NAME A SPECIFIC REFERRAL SITE FOR THE SERVICE IN QUESTION.	YES, SERVICE IS AVAILABLE IN FACILITY THROUGH OUTREACH BY OR THIS FACILITY	YES, SERVICE PROVIDED THROUGH REFERRAL			NO SERVICE OR REFERRAL
			REFERRAL SITE OBSERVED ON RECORDS	REFERRAL LIST NOT SEEN. PROVIDED		
				CAN NAME SPECIFIC REFERRAL SITE OR SERVICE	CANNOT NAME SITE	
182	Food nutrition support for HIV+ clients	1	2	3	4	5
	Income generating activities for HIV+ clients	1	2	3	4	5
	Fee exemptions for people infected with HIV	1	2	3	4	5
	Information, educational and communication materials	1	2	3	4	5
	Home based care to HIV+ clients Emotional/Spiritual support to HIV+ clients	1	2	3	4	5
	Counselling or health education for prevention of transmission of HIV/AIDS?	1	2	3	4	5
	Provide or refer providers of HIV/AIDS services for emotional/spiritual support? (i.e., Counselling supervision meetings)	1	2	3	4	5
	Support group for people living HIV/AIDS (PLWHA)?	1	2	3	4	5

THANK THE RESPONDENT.

Appendix 5: In-depth interview guide for Key health informants

Participant Code:

Date of interview:

Interviewers name:

<u>Demographic characteristics of the key informant</u>

Interviewees name:

Which organization do you work for?

What is your position in Nyanza Province? :

For how long have you held that position? :

What is your highest level of education? :

Questions posed

1) **To assess the impacts and factors, and determine the effects of HIV/AIDS scale-up on non-HIV priority services in Nyanza Province**

Have you heard about HIV scale up? I'd like to hear more of your thoughts and opinions about HIV scale-up

What are some of the good things you've heard about it?

What are some of the bad things you've heard about it?

According to you, how has HIV scale-up affected other non-HIV services?

In your view, what are the key strategies, interventions or tools that define scale-up of other non-HIV services?

Which of these strategies, interventions or tools would you consider to be key program elements? Please explain

What are your thoughts about the adoption of scale-up of non-HIV services? Please justify

2) **To assess service delivery and population coverage trends of non-HIV priority services in health facilities where there has been rapid scaling up in the delivery and coverage of HIV services in Nyanza province.**

According to you, which areas in the province have benefited more from HIV scale-up? Why do you think so?

Which areas have benefited less?

In your view how has HIV scale-up impacted on service delivery of non-HIV services in the areas that have benefited from scale-up?

3) **To determine whether scale-up of HIV/AIDS services has a beneficial or detrimental effect on other non-HIV priority service delivery and coverage in Nyanza province**

To what extent has HIV scale-up advanced or hindered service delivery of non-HIV services in the province? Please explain

In terms of coverage, what is your recommendation on the areas that need to be scaled-up both for HIV and non-HIV service?

What strategies, interventions or tools would you recommend be sustained and/or scaled-up? Please provide a justification for your response.

What strategies, interventions and/or tools should be discontinued? Why?

Has your organization benefited from HIV scale-up? How has it benefited?

What are some barriers to scale-up of non-HIV services, if any, that you have encountered? Staff turnover? Lack of key support from the government and stakeholders? Lack of technical assistance? Please explain.

How have you overcome these barriers?

What effect, if any, do you feel that HIV scale-up has had on the organization in which you work for? Increased use of services? Changes to the organization? Increased workload? Please explain.

4) **To identify the elements that characterize HIV programs that has successfully enhanced non-HIV service delivery and outcomes in order to advise health policies in the improvement of primary health care.**

What are the key policies and/or programs that you think have helped to inform the science of scale-up?

In your opinion, are those policies implemented for HIV/AIDS scale-up activities in this province?

In your opinion, can you say that the concept of going to scale in a phased manner; from piloting to implementation, is being applied in scale-up of HIV services in this province?

Has the application been successful?

If yes, what are the indications of the political will?

If No, what strategies should be used to gain the political interests?

What is your opinion on donor coordination of scale-up activities? Do the donors impede or advance coordination of scale-up?

5) **To determine knowledge, perceptions, attitudes and experiences of key informants towards HIV/AIDS scale up**

Do you think there is enough sensitization of health care staff on HIV and scale-up services? How does the province perform this sensitization? At what frequency is the sensitization done?

Are there available policies on scaling-up health services?

Based on your own personal experience and expertise, what are your own beliefs/opinions about;

a. HIV scale-up?

b. Scale up of non-HIV priority services?

How has the scale-up affected the work of the personnel? Challenges? Success? Please explain.

What are your own beliefs to explain successful scale-up?

6) **To develop a model of indicators for service delivery in HIV/AIDS scale-up**

What do you think are the key indicators that explain successful scale-up?

How have these indicators contributed to the delivery of non-HIV services?

What recommendations do you have for future efforts on scale-up?

What are some of the research questions that need to be addressed to help fill the gaps in the knowledge base of scale-up?

Is there anything more you would like to add?

THANK YOU

Appendix 6: Questionnaire for Health Care Providers

Dear ….

Please complete this questionnaire as per the following instructions

Instructions:

1. Do not write your name on this form. It is an anonymous survey

2. Read through all the options before you make a choice.

3. Circle in the box ( ) the answer you think is correct or is your point of view.

4. Other questions might have more than one answer circle all that are of your choice.

Impact of HIV Scale-up on non-HIV priority services in Nyanza Province, Kenya			
	QUESTIONS	***RESPONSES***	***INSTRUCTIONS***
1.0 INTRODUCTION: I am a student at the Durban University of Technology pursuing a Doctorate Degree in Health Science. Currently I am carrying out the above study in Nyanza Province as part of the requirements for the fulfillment of my Doctorate Degree. The purpose of this introduction is to kindly request you to participate in the study by completing the attached questionnaire. All the information collected will be treated as strictly confidential. Your cooperation and support in this study will be highly appreciated.			
1.1	Date of interview:	_____ /_____/ _____	*DD/MM/YY*
1.2	Interviewer name:	_____	*INDICATE BOTH NAMES*
1.3	Name of Department	LABORATORY.....1 ADMINISTRATION (Specify) .....2 CLINIC.....3 RECORDS.....4 OPD.....5 OTHER (Specify).....8	*CIRCLE THE MOST APPROPRIATE*
2.0	**DEMOGRAPHIC CHARACTERISTICS OF HEALTH CARE PROVIDER**		
2.1	What is your position at the health facility?	SPECIFY.....	
2.2	On what day, month and year were you born?	_ _ //_ _//_____	*Mm/ dd/ yyyy*
2.4	Gender of respondent	MALE .....1 FEMALE 2	*CIRCLE THE MOST APPROPRIATE*

2.5	What is your highest level of education?	UNIVERSITY .....1 TERTIARY COLLEGE .....2 SECONDARY.....3 PRIMARY .....4 NONE 5	
2.6	How long have you been in service at this facility (in years)?	_____ YEARS	*IN COMPLETE YEARS*
3.0	**SERVICE DELIVERY AND POPULATION COVERAGE TRENDS OF NON-HIV SERVICES**		
3.1	Please indicate the HIV services offered in this facility?	PMTCT .....1 VCT.....2 HIV LAB TESTS .....3 ART .....4 OTHER 5	*CIRCLE THE MOST APPROPRIATE*
3.2	Please indicate the non-HIV services offered in this facility?	FAMILY PLANNING.....1 MATERNAL CHILD HEALTH .....2 TB SERVICES.....3 MALARIA SERVICES .....4 SKIN DISEASES.....5 ANC/PNC .....6 OTHER 7	
3.3	What is your opinion about the state of HIV scale-up in this facility?	VERY SATISFACTORY.....1 SATISFACTORY.....2 NEITHER SATISFACTORY NOR UNSATISFACTORY.....3 UNSATISFACTORY.....4 VERY UNSATISFACTORY 5	*CIRCLE THE MOST APPROPRIATE*
3.4	Has the expansion of HIV related laboratory procedures had a spillover effect on the management of other diseases?	YES.....1 NO.....2 DON'T KNOW 3	*CIRCLE THE MOST APPROPRIATE*
3.5	Are the HIV-financed equipment being used to deliver non-HIV-related health services in this facility?	YES.....1 NO.....2 DON'T KNOW 3	*CIRCLE THE MOST APPROPRIATE*
3.6	Is the leadership of this facility motivated to integrate non-HIV services into HIV related services?	YES.....1 NO.....2 DON'T KNOW 3	

3.7	If yes to 3.6, what are some of the possible features and results obtained from integrating non-HIV services with HIV services?	INCREASED WORKLOAD .....1 INCREASED USE OF SERVICES.....2 CONTINUOUS STAFF TRAINING .....3 IMPROVED INFRASTRUCTURE .....4 OTHER .....5 DON'T KNOW 6	
3.8	Are patients engaged in planning, implementing and monitoring interventions on integrating non-HIV services into HIV services?	YES.....1 NO.....2 DON'T KNOW 3	*CIRCLE THE MOST APPROPRIATE*
3.9	In your experience, would you say that most, some or few of the patients are satisfied with the services offered to them in this facility?	MOST .....1 SOME .....2 FEW .....3 DON'T KNOW 4	
3.10	How would you describe the relationship between this facility and patients over delivery of routine health care?	GOOD.....1 AVERAGE .....2 BAD .....3 NON EXISTENT 4	
3.11	How would you describe the relationship between this facility and NGO's over delivery of routine health care?	GOOD.....1 AVERAGE .....2 BAD .....3 NON EXISTENT .....4 NO NGO'S CLOSE BY .....5 DON'T KNOW 6	
3.12	Creation of new capacity for non- HIV services, as a key benefit of HIV scale-up has improved delivery of routine health care.	STRONGLY DISAGREE.....1 SOMEHOW DISAGREE .....2 SOMEHOW AGREE .....3 STRONGLY AGREE.....4	*PLEASE RATE THIS STATEMENT*
3.13	Are there any risks involved in integrating non-HIV services into HIV services in this facility?	YES.....1 NO.....2 DON'T KNOW 3	*CIRCLE THE MOST APPROPRIATE*

3.14	If Yes, what are the risks?	INCREASED WORKLOAD .....1 INSUFFICIENT STAFF WORKFORCE .....2 STAFF TURNOVER .....3 WEAK LEADERSHIP .....4 LACK OF CAPACITY .....5 OTHER 6	*CIRCLE THE MOST APPROPRIATE*
3.15	Have scaling-up and integrating non-HIV services into HIV service delivery affected the relevance of or local ownership of this facility?	YES.....1 NO.....2	
3.16	If Yes, Is that a challenge to the delivery of health care in this facility?	YES.....1 NO.....2	
4.0	**BENEFITS AND DETRIMENTS OF HIV SCALE-UP ON NON-HIV SERVICE DELIVERY**		
4.1	In your opinion, do you think that HIV scale-up has contributed positively or negatively to the delivery of non-HIV services in this facility?	POSITIVELY .....1 NEGATIVELY .....2 DONT KNOW .....3 **If Negatively, skip to 4.3**	*CIRCLE THE MOST APPROPRIATE*
4.2	If Positively, to what extent has scale-up contributed to delivery of non-HIV services?	LARGELY .....1 AVERAGELY .....2 LOW.....3 NO EXTENT.....4 DON'T KNOW 5	
4.3	If negatively, what are some of the barriers to scale-up of non-HIV services, if any, that you have encountered in this facility?	STAFF TURNOVER .....1 HUMAN RESOURCE DEFICIENCY.....2 WEAK HEALTH SYSTEMS .....3 WEAK LEADERSHIP AND MANAGEMENT.....4 FINANCIAL CONSTRAINTS 5	*CIRCLE THE MOST APPROPRIATE*

		WORKLOAD.....6 LACK OF TRAINING.....7 OTHER.....8 DON'T KNOW.....9 **If Don't know, skip to 5.1**	
4.4	How have you as a facility overcome these barriers?	STRONG COMMUNICATION.....1 RISK POOLING STARTEGIES.....2 CAPITAL INVESTMENT OF FACILITIES.....3 PROPER PERFORMANCE REVIEW SYSTEMS.....4 DEVELOPMENT OF MONITORING AND REGUALTION SYSTEMS.....5 OTHER.....6 DON'T KNOW.....7	*CIRCLE ALL THAT APPLY*
5.0 DELIVERY	**ELEMENTS THAT CHARACTERIZE HIV PROGRAMS THAT HAVE ENHANCED NON-HIV SERVICE**		
5.1	Does this facility have the technical capabilities to integrate and scale-up non-HIV services with HIV services?	YES.....1 NO.....2 DONT KNOW.....3 **If No or Don't know, skip to 5.3**	*CIRCLE THE MOST APPROPRIATE*
5.2	If Yes, please indicate the available capabilities?	HEALTH WORKFORCE.....1 GOOD LEADERSHIP.....2 HEALTH MANAGEMENT INFORMATION SYSTEMS.....3 LOGISTICS SYSTEMS.....4 HEALTH FINANCING.....5 OTHER.....6	*CIRCLE ALL THAT APPLY*
5.3	In your opinion, can you say that the concept of going to scale in a phased manner; from piloting to implementation, was applied in this facility?	YES.....1 NO.....2 DONT KNOW.....3 **If No or Don't know, skip to 5.6**	*CIRCLE THE MOST APPROPRIATE*

5.4	If Yes, to what extent was it applied?	LARGELY .....1 MODERATELY .....2 LOW EXTENT.....3 NO EXTENT.....4	
5.5	Has the application been successful?	YES.....1 NO.....2 DONT KNOW 3	
5.6	Do you think that there has been political will or interest in scaling up of non-HIV services in this facility?	YES.....1 NO.....2 **If No, skip to 5.9**	
5.7	If yes, what are the indications of the political will?	PART OF DECISION MAKERS.....1 RESOURCE ALLOCATION.....2 COMMUNITY ENGAGEMENT.....3 FORMULATION AND IMPLEMENTATION OF POLICIES .....4 PUBLIC TRUST.....5 OTHER 6	*CIRCLE ALL THAT APPLY*
5.8	If No, what strategies should be used to gain the political interests?	TRANSPARENCY OF FACILITY INFO.....1 DECENTRALIZATION .....2 HEALTH SYSTEM REFORMS .....3 OTHER .....4 DONT KNOW.....5	
5.9	Has the training provided to staff in HIV programs had an impact on the quality of care for non-HIV services?	YES.....1 NO.....2 DONT KNOW 3	*CIRCLE THE MOST APPROPRIATE*
	Has the supervision provided to staff in HIV programs had an impact on the quality of care for non-HIV services?	YES.....1 NO.....2 DONT KNOW 3	
	Has the mentoring provided to staff in HIV programs had an impact on the quality of care for non-HIV services?	YES.....1 NO.....2 DONT KNOW 3	

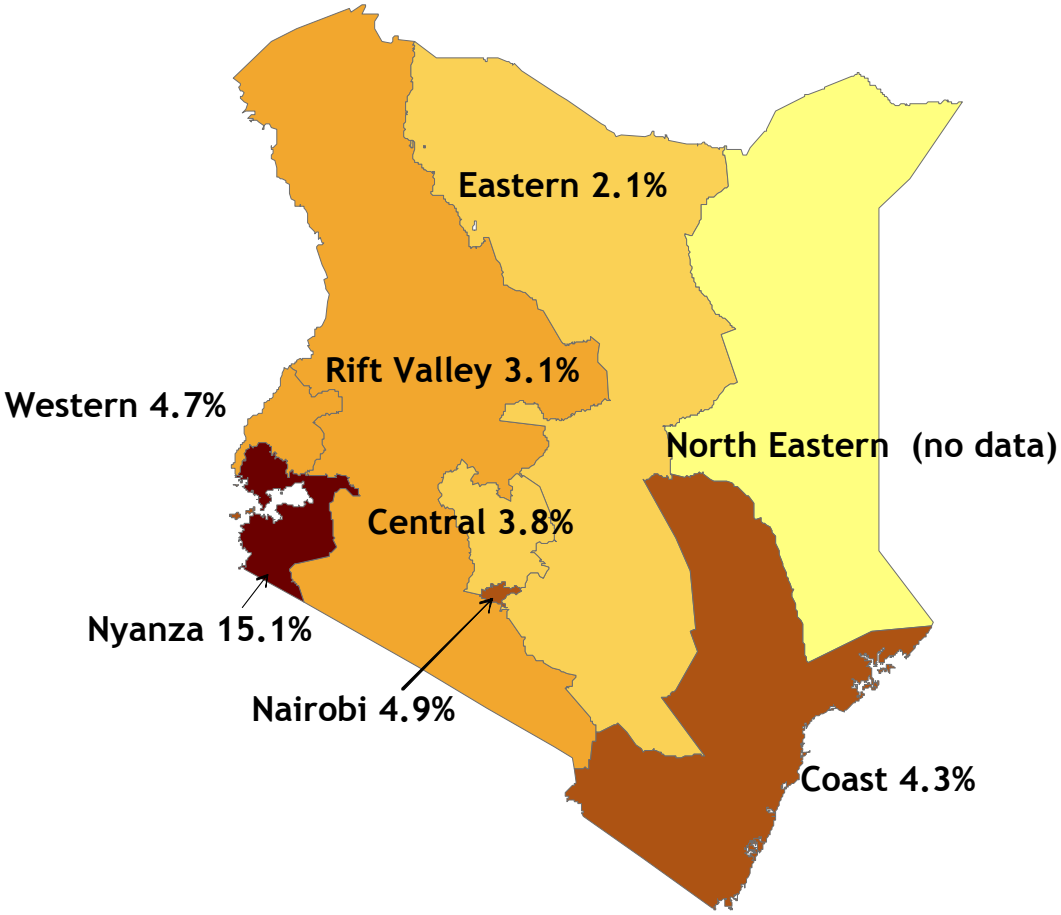
5.10	Is there a participatory consultation and engagement process in this facility that involves the representation from the patient community in efforts of scale-up?	YES.....1 NO.....2 DONT KNOW.....3	
5.11	In your opinion, is the size and capacity of the staff workforce adequate for service delivery in this facility?	YES.....1 NO.....2 DON'T KNOW.....3	
5.12	Has funding for HIV services had a positive or negative impact on the health workforce in the delivery of non-HIV services?	POSITIVE.....1 NEGATIVE.....2 DON'T KNOW.....3	*CIRCLE THE MOST APPROPRIATE*
5.13	What is your opinion on donor coordination of scale-up activities? Do the donors impede or advance coordination of scale-up?	IMPEDE.....1 ADVANCE.....2 DON'T KNOW.....3 COMMENT.....	
5.14	Has the expectation on integrating non-HIV services into HIV service delivery in this facility been High, Normal or Low?	HIGH.....1 NORMAL.....2 LOW.....3 DON'T KNOW.....4	
	In your opinion, does this facility integrate non-HIV services into HIV services?	YES.....1 NO.....2 MAYBE.....3 DON'T KNOW.....4	
5.15	How have the practical lessons derived from integrating non-HIV services into HIV services contributed to expansion and improvement of the quality of service delivery in this facility?	LARGELY.....1 MODERATELY.....2 LOW EXTENT.....3 NO EXTENT.....4	
6.0 SCALE UP	**KNOWLEDGE, PERCEPTIONS, ATTITUDES AND EXPERIENCES OF STAFF TOWARDS HIV/AIDS**		
6.1	Have you experienced scale-up of HIV/AIDS services in this facility? **If yes, move to 6.2**	YES.....1 NO.....2 DON'T KNOW.....3	

6.2	What is the state of HIV scale-up in this facility?	HIGH.....1 NORMAL.....2 MEDIUM.....3 LOW EXTENT.....4 NO EXTENT.....5	
6.3	How is information on HIV/AIDS services and scale-up passed in this facility?	HEALTH TALKS/SEMINARS.....1 CONTINOUS MEDICAL EDUCATION.....2 DEPARTMENT MEETINGS .....3 NOTICE BOARDS.....4 OTHER 5	
6.4	What is your opinion on the scale-up of HIV/AIDS services in this facility?	VERY SATISFACTORY.....1 SATISFACTORY.....2 NEITHER SATISFACTORY NOR UNSATISFACTORY.....3 UNSATISFACTORY.....4 VERY UNSATISFACTORY 5	
6.5	Has the scale-up of HIV activities in this facility impacted on the staff performance?	YES.....1 NO.....2	
6.6	In your opinion, how has the provision of scaling up HIV services impacted on the performance of the staff??	LARGELY .....1 MODERATELY.....2 LOW EXTENT.....3 NO EXTENT.....4	*CIRCLE THE MOST APPROPRIATE*
6.7	If largely, what in your opinion should be done to simplify it or reduce the scale-up complexity?	.....1 .....2 3	
6.8	How have staffs reacted to HIV/AIDS scale-up services in this facility?	POSITIVELY.....1 NEGATIVELY.....2 DON'T KNOW.....3	*CIRCLE THE MOST APPROPRIATE*
6.9	Is this facility embracing HIV/AIDS scale-up positively or negatively?	POSITIVELY.....1 NEGATIVELY.....2 DON'T KNOW.....3	
6.10	If positively, what areas of work have most been affected?	INCREASED WORKLOAD .....1 INSUFFICIENT STAFF WORKFORCE.....2 STAFF TURNOVER.....3	*CIRCLE THE MOST APPROPRIATE*

		LEADERSHIP .....3 LACK OF CAPACITY .....3 FACILITY RESOURCES.....3 OTHER 3	
6.11	Has scale-up and integration of non-HIV services improved health service quality and efficiency in this facility?	YES.....1 NO.....2	
6.12	If Yes, to what extent has service quality and efficiency improved?	LARGELY .....1 MODERATELY .....2 LOW EXTENT.....3 NO EXTENT.....4	

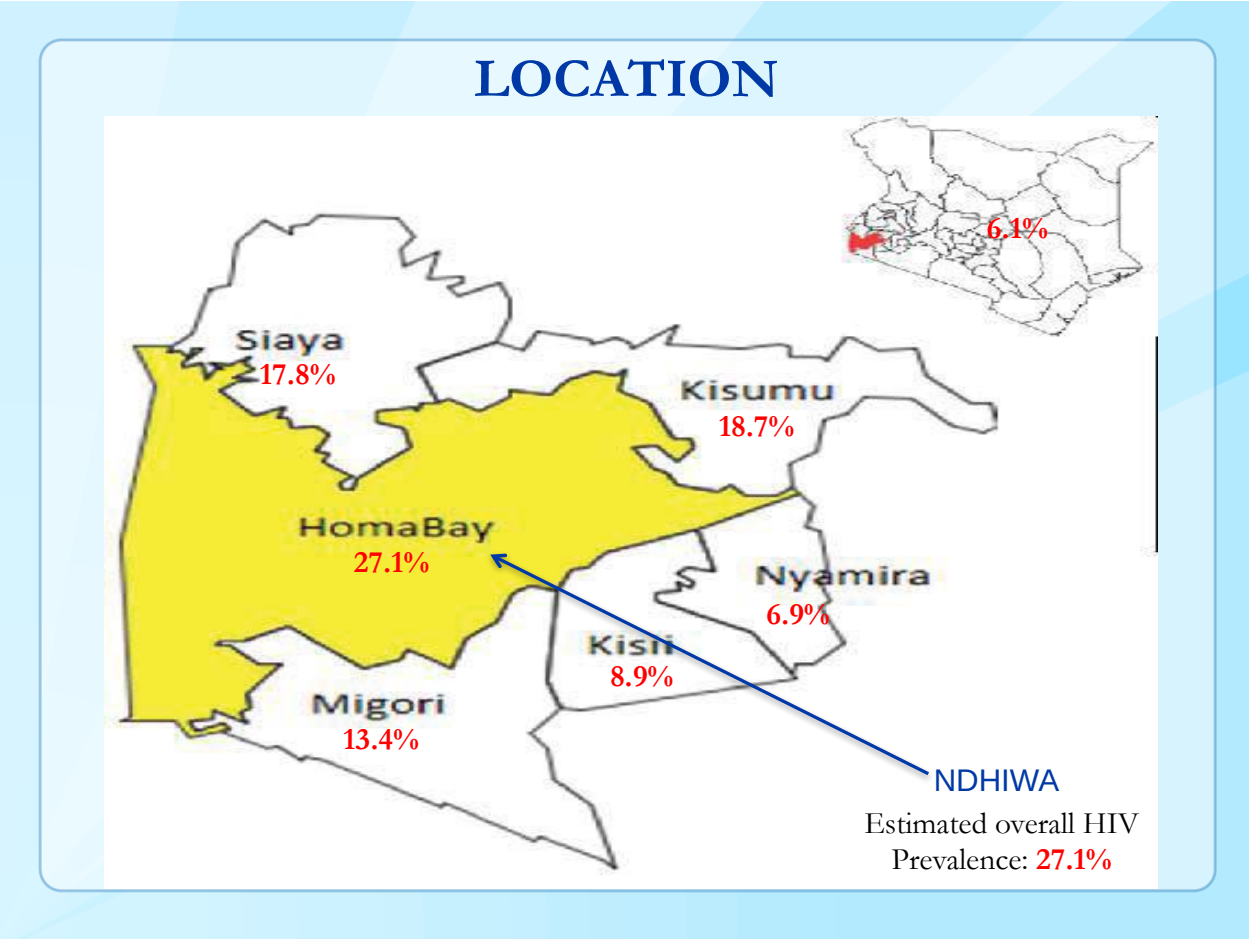
7.0	MODEL OF INDICATORS FOR SERVICE DELIVERY IN HIV SCALE-UP		
	Are there systems to monitor and evaluate the quality of care indicators in this facility?	YES..... 1 NO..... 2	*CIRCLE THE MOST APPROPRIATE*
	If Yes, what are the devices used for monitoring and evaluating the systems?	ROUTINE FACILITY DATA ANALYSIS..... 1 INTERNAL AUDITS..... 2 EXTERNAL AUDITS..... 3 ENGAGING EXTERNAL MONITORS..... 4 OTHER..... 5	*CIRCLE ALL THAT APPLY*
	Does the facility have a procedure for collecting routine data on quality of care indicators from patients?	YES..... 1 NO..... 2	*CIRCLE THE MOST APPROPRIATE*
	If Yes, how do you as a facility respond to them?	THROUGH FOLLOW-UPS..... 1 THROUGH ACTION PLANS..... 2 OTHER..... 3	*CIRCLE ALL THAT APPLY*
	Are the dissemination strategies adequate enough to ensure that integration of non-HIV services into HIV services are delivered as intended?	YES..... 1 NO..... 2	*CIRCLE THE MOST APPROPRIATE*
	In your opinion, are there any national policies that show commitment in scale-up of non-HIV services?	YES..... 1 NO..... 2	*CIRCLE THE MOST APPROPRIATE*
THANK YOU			

Appendix 7: HIV prevalence among persons aged 15-64 years by NASCOP region, KAIS 2012



MAP OF KENYA SHOWING HIV PREVALENCE IN%

Appendix 8: Map of Nyanza Province counties



Appendix 9: DUT Ethical Approval

DUT
DURBAN UNIVERSITY OF TECHNOLOGY

Institutional Research Ethics Committee
Faculty of Health Sciences
Room M5 49, Muzafield School Site
Gate 8, Ritson Campus
Durban University of Technology

P.O Box 1334, Durban, South Africa, 4001

Tel: 031 373 2900
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www.dut.ac.za

19 January 2015

IREC Reference Number: **REC 77/14**

Ms V S Opollo
vopollo@kemricdc.org

Dear Ms Opollo

IMPACT OF HIV SCALE-UP ON NON-HIV PRIORITY SERVICES IN NYANZA PROVINCE, KENYA

I am pleased to inform you that Full Approval has been granted to your proposal REC 77/14.

The Proposal has been allocated the following Ethical Clearance number IREC 006/15. Please use this number in all communication with this office.

Approval has been granted for a period of one year, before the expiry of which you are required to apply for safety monitoring and annual recertification. Please use the Safety Monitoring and Annual Recertification Report form which can be found in the Standard Operating Procedures [SOP's] of the IREC. This form must be submitted to the IREC at least 3 months before the ethics approval for the study expires.

Any adverse events [serious or minor] which occur in connection with this study and/or which may alter its ethical consideration must be reported to the IREC according to the IREC SOP's. In addition, you will be responsible to ensure gatekeeper permission.

Please note that any deviations from the approved proposal require the approval of the IREC as outlined in the IREC SOP's.

Yours Sincerely

[redacted]

Professor J K Adam
Chairperson: IREC

Appendix 10: JOOTRH ERC Approval letter

MINISTRY OF HEALTH

Telegrams: "MEDICAL", Kisumu
Telephone: 057-2020801/2020803/2020321
Fax: 057-2024337
E-mail: ercjootrh@gmail.com
When replying please quote

JARAMOGI OGINGA ODINGA TEACHING & REFERRAL HOSPITAL
P.O. BOX 849
KISUMU

Ref: ERC.1B/VOL.I/132

Date 25th September, 2014

Dear Valarie,

RE: FORMAL APPROVAL TO CONDUCT RESEARCH TITLED: *"IMPACT OF HIV/AIDS SCALE-UP ON NON-HIV PRIORITY SERVICES IN NYANZA PROVINCE, KENYA"*

The JOOTRH ERC (ACCREDITATION NO. 01713) has reviewed your protocol and found it ethically satisfactory. You are, therefore, permitted to commence your study immediately. Note that this approval is granted for a period of one year (25th September, 2014 to 25th September, 2015). If it is necessary to proceed with this research beyond the approved period, you will be required to apply for further extension.

Also note that you will be required to notify the committee of any protocol amendment(s), serious or unexpected outcomes related to the conduct of the study or termination for any reason.

Finally, note that you will also be required to share the findings of the study in both hard and soft copies upon completion.

The JOOTRH ERC takes this opportunity to thank you for choosing this institution and wishes you the best in your endeavours.

Yours sincerely,

[redacted]

WILBRODA MAKUNDA,
For: **SECRETARY – ERC,**
JOOTRH – KISUMU.

Appendix 11: Family Planning service coverage in 2009 and 2013 within all the health facilities

	2009			2013			Trend	p-value
	Provided	**Prescribed**	**Not offered**	**Provided**	**Prescribed**	**Not offered**		
Family planning services	n(%)	n(%)	n(%)	n(%)	n(%)	n(%)	(%)	
Combined oral pills	29 (42.65)	19 (27.94)	20 (29.41)	5 (7.35)	58 (85.29)	5 (7.35)	-35.3	<0.01
Progestin-only pills	57 (83.82)	11 (16.18)	0	68 (100)	0	0	16.18	<0.01
Combined Injectable (1 monthly)	5 (7.35)	23 (33.82)	40 (58.82)	5 (7.35)	59 (86.76)	4 (5.88)	0	
Progestin-only Injectable (2 monthly)	42 (61.76)	10 (14.71)	16 (23.53)	52 (76.47)	14 (20.59)	0	14.71	0.06
Progestin-only Injectable (3 monthly)	31 (45.59)	35 (51.47)	2 (2.94)	68 (100)	0	0	54.41	<0.01
Male condom	63 (92.65)	5 (7.35)	0	68 (100)	0	0	7.35	0.02
Female condom	2 (2.94)	37 (54.41)	29 (42.65)	1 (1.47)	67 (98.53)	0	-1.47	0.56
Implant	10 (14.71)	18 (26.47)	40 (58.82)	51 (75.00)	17 (25.00)	0	60.29	<0.01
Emergency contraceptive pill	0		68 (100)	0	29 (42.65)	39 (57.35)	0	
Natural family planning methods (e.g., Rhythm, LAM)	0	68 (100)	0	0	68 (100)	0	0	
Standard Days Method (SDM) - Beads	0	68 (100)	0	0	68 (100)	0	0	
Male sterilization (Vasectomy)	29 (42.65)	36 (52.94)	3 (4.41)	29 (42.65)	39 (57.35)	0	0	
Female sterilization (Tubal ligation)	29 (42.65)	37 (54.41)	2 (2.94)	29 (42.65)	39 (57.35)	0	0	

Appendix 12: Prevention of mother to child transmission (PMTCT)

PMTCT Service delivery	2009	2013
	n (%)	n (%)
Provide minimum package for PMTCT		
Yes	68 (100)	68 (100)
No	0 (0%)	0 (0%)
How are PMTCT services organized in this facility?		
Separate PMTCT	15 (22.06%)	4 (5.88%)
Combined PMTCT with CCC/ANC/ ANC and delivery	53 (79.94%)	64 (94.12)

Appendix 13: Summary of HTC service delivery in 2009 and 2013

HIV SERVICES	2009	2013
Counseling and testing	n (%)	n (%)
Does the facility offer HIV counselling and testing		
Yes, HIV counseling only	0	0
Yes, HIV testing only	0	0
Yes, both counseling and testing	68 (100)	68 (100)
No HIV counseling or testing	0	0
Staff trained on HTC in the last 2 years		
Yes	68 (100)	68 (100)
No	0	0
On-job training on HTC in the last 3 years		
Yes	49 (72.06)	68 (100)
No	19 (27.94)	0
Staff who commonly offer HIV counseling		
Lay HIV counselors	15 (22.06)	25(36.76)
Untrained lay personnel	0	0
CITC counselors from outside	0	0
Trained staff from this unit	56 (82.35)	68 (100)
Trained & untrained staff from this unit	0	0
Both outside staff and trained staff	0	0
Clients always sent to another unit	0	0
HIV rapid testing		
Yes	68 (100)	68 (100)

No	0	0
National guidelines for HTC		
Available	68 (100)	68 (100)
Not available	0	0
Algorithm for testing		
Available	68 (100)	68 (100)
Not available	0	0
Infection prevention and control guidelines		
Available	65 (95.59)	68 (100)
Not available	3 (4.41)	0
PEP guidelines		
Available	32 (47.06)	68 (100)
Not available	36 (52.94)	0

Appendix 14: Summary of Tuberculosis and Malaria service delivery in 2009 and 2013

TB services	**2009**	**2013**
TB diagnosis	n(%)	n(%)
Provided in the unit	29 (42.65)	68 (100)
Other providers in the unit	0	0
Refer clients out	39 (57.35)	0
No service/referral	0	0
TB treatment		
Provided in the unit	29 (42.65)	68 (100)
Other providers in the unit	2 (2.94)	0
Refer clients out	37 (54.41)	0
No service/referral	0	0
TB treatment follow-up		
Provided in the unit	29 (42.65)	68 (100)
Other providers in the unit	0	0
Refer clients out	39 (57.35)	0
No service/referral	0	0
Guidelines for management of TB & Leprosy		
Available	62 (91.18)	68 (100)
Not available	6 (8.82)	0
Manual of national TB & leprosy program		
Available	64 (94.12)	68 (100)
Not available	4 (5.88)	0
Other guidelines on TB management		
Available	34 (50.00)	68 (100)
Not available	34 (50.00)	0
TB cases tested for HIV		
Yes, all cases	58 (85.29)	68 (100)
Yes, suspect cases only	1 (1.47)	0
No	9 (13.24)	0
Register of TB cases tested for HIV		
Yes, observed	16 (23.53)	68 (100)
Yes, reported not seen	43 (63.24)	0
No	9 (13.24)	0
Records of TB patients diagnosed as HIV+		
Yes, observed	10 14.71)	68 (100)
Yes, reported not seen	57 (83.82)	0
No	1 (1.47)	0
Staff trained in the last 2 years on TB diagnosis and treatment		
Yes	68 (100)	68 (100)

No	0	0
Malaria diagnosis and treatment	**2009**	**2013**
Malaria diagnosis	n(%)	n(%)
Provided in the unit	58 (85.29)	68 (100)
Other providers in the unit	1 (1.47)	0
Refer clients out	9 (13.24)	0
No service/referral	0	0
Malaria treatment		
Provided in the unit	58 (85.29)	68 (100)
Other providers in the unit	3 (4.41)	0
Refer clients out	7 (10.29)	0
No service/referral	0	0
Guidelines for management of malaria		
Available	60 (88.24)	68 (100)
Not available	5 (7.35)	0
Don't know	3 (4.41)	0
Manual of national malaria program		
Available	54 (79.41)	68 (100)
Not available	13 (19.12)	0
Don't know	1 (1.47)	0
Other guidelines on malaria management		
Available	8 (11.76)	68 (100)
Not available	60 (88.24)	0
Records of malaria patients diagnosed as HIV+		
Yes, observed	37 (54.41)	68 (100)
Yes, reported not seen	21 (30.88)	0
No	10 (14.71)	0
On-job training in malaria (children) in the last 3 years		
Yes	52 (76.47)	68 (100)
No	16 (23.53)	0
On-job training in malaria (Adults) in the last 3 years		
Yes	43 (63.24)	68 (100)
No	25 (36.76)	0
Training on Intermittent Preventive Treatment		
Yes	61 (89.71)	68 (100)
No	7 (10.29)	0