2016

Assessing the acceptability and willingness to pay for HIV services among patients at LVCT health HIV clinics

Otiso, Lilian Dr
Strathmore Business School
Strathmore University

Assessing the Acceptability and Willingness to Pay for HIV Services Among Patients at LVCT Health HIV Clinics

Dr Lilian Otiso

MBA HCM 83066/14

Submitted in partial fulfilment of the requirements for the

Degree of Master of Business Administration in Healthcare Management at Strathmore University

Strathmore Business School,

Strathmore University

Nairobi, Kenya

JUNE, 2016

DECLARATION

I declare that this work has not been previously submitted and approved for award of degree by this or any other university. To the best of my knowledge and belief, the thesis contains no material previously published or written by another person except where due reference is made in the thesis itself:

Name of Candidate: Lilian Otiso

APPROVAL

The thesis of Lilian Otiso was reviewed and approved by the following:

Name of Supervisor …Dr Elizabeth Muthuma…….

Faculty Affiliation…Strathmore Business School ……

Abstract

There have been several calls for sustainability of the predominantly donor funded HIV programs globally due to reduction in HIV funding. User fees for HIV services were eliminated by the World Health Organization in 2006. This study sought to explore if it is acceptable (does not violate rights) to charge for HIV services and willingness to pay (WTP) for HIV care and treatment services among patients at LVCT Health clinics in Nairobi and Kisumu. It also sought to examine the factors that influence WTP health care payment methods for HIV services that patients in the clinics could use to pay for services.

The study applied a cross-sectional survey design utilising quantitative data with some open ended questions. Three hundred and sixty (360) patients in LVCT Health clinics in Nairobi and Kisumu were issued with questionnaires and 337 responded. Quantitative data analysis techniques involving descriptive statistics, Chi square tests and logistic regression were carried out. Qualitative data was coded and presented in themes. Ethical approval was obtained from the Strathmore University Institutional Review Board.

Findings revealed that only 16% of respondents found it acceptable to be charged for the services. Reasons given for not being acceptable were that patients are poor and would not afford treatment. 64.5% were willing to pay if donors withdrew funding support to the clinic, but majority (74.5%) were willing to pay less than Ksh 2000 per visit (estimated required amount Ksh 5000). There was significant association ($p<0.05$) between WTP and education level, income, presence of private medical insurance and having paid for HIV services before. 59.6% of respondents were enrolled in the National Hospital Insurance Fund (NHIF) and 61% were willing to use it to finance their treatment. Those who did not want to use it did not want their employer or insurance company to find out their HIV status.

The findings demonstrate that though willing to pay, majority of HIV patients are poor and would not be able to afford user fees for HIV treatment making them vulnerable to its effects. NHIF and private medical insurance seem like viable options that should be explored to finance HIV treatment.

Table of Contents

List of Tables

List of Figures

Acknowledgments

I would like to acknowledge all the people without whose support this research would not have been possible.

I would like to specifically recognize the staff and management of LVCT Health who allowed and supported me to collect data from the clinics in Nairobi and Kisumu. I would like to sincerely appreciate the patients in the clinics for allowing me to collect data and responding to the questionnaires willingly and the research assistants who patiently supported me in the process of data collection.

My special thanks go to my research supervisor, Dr Elizabeth Muthuma who guided me through to the completion of the project. I also acknowledge the staff and faculty of Strathmore Business School who facilitated the process of learning and conducting the research until its conclusion.

.

List of abbreviations

AIDS	Acquired Immune deficiency syndrome
ART	Anti-retroviral therapy
FBO	Faith Based Organizations
GFATM	Global Fund against TB, Malaria and HIV
HIV	Human Immunodeficiency Virus
KASF	Kenya AIDS Strategic Framework
NACC	National AIDS Control Council
NGO	Non-governmental organizations
NHIF	National Hospital Insurance Fund
PEPFAR	Presidents Emergency Programs for AIDS Relief
PLHIV	People Living With HIV
STI	Sexually Transmitted Illnesses
VCT	Voluntary Counselling and Testing
WTP	Willingness to Pay

Chapter One: Introduction

HIV programs globally and in Kenya have been largely donor funded and run as vertical programs. There have been several calls for sustainability of HIV programs globally due to a recent global shift in HIV funding which has been on a continuous decline over the last few years (PEPFAR, 2013). This has been brought on by among other reasons, the global recession and new emerging development priorities globally including the recent Ebola outbreak in West Africa. Countries and donors have prioritized sustainability of their HIV programs with various strategies proposed to address this. Funding through payments made by health insurance and private patients who can pay for services through cost sharing is one such proposed model aimed at offloading the heavy burden from public facilities and the limited public resources.

1.1 Background

1.1.1 HIV burden

HIV is the leading cause of mortality in Kenya (Ministry of Health, 2013). There are 1.6 million people living with HIV (PLHIV), with 103,000 new infections every year (Ministry of Health, 2014). The number of people on anti-retroviral therapy (ART) countrywide has increased from 24,000 in 2004 to over 700,000 by 2014. The highest numbers of People living with HIV (PLHIV) and new infections are estimated to be in the counties of the former Nyanza province which include Kisumu and Nairobi (Ministry of Health, 2014). With HIV now considered a chronic disease due to the advent of ART, the HIV patients are expected to be in care over the next 20 to 30 years.

1.1.2 Payment for HIV services

Unlike other health conditions, HIV is a public health priority with high transmission rate and is therefore largely provided free or subsidized both in developing and developed countries. In 2004, the World Health Organization (WHO) proposed a public health approach and abolition of user fees to increase access to HIV services

(Gilks et al., 2006). User fees had been introduced as a payment method aimed at improving health financing in developing countries by the World Bank in 1987 (Akin, Birdsall, & de Ferranti, 1987) but were later found to have a negative effect on equity of access with reduced demand and utilization of services especially for poor people (Yates, 2009).

Since 2005, most of the HIV services in Kenya have been offered free of charge to the public through government, Faith Based Organizations (FBOs) and non-governmental organizations (NGOs) clinics nationally. The programs are largely funded by donors with a significant proportion covered by the US government through the Presidents Emergency Programs for AIDS Relief (PEPFAR) and the Global Fund against TB, Malaria and HIV (GFATM) (National AIDS Control Council, 2014a). Donor funding has also been used to subsidize delivery of HIV services in private hospitals, such as those supported by Goldstar network Kenya.

In spite of the current high funding levels for HIV services, there is need to consider sustainability at national and program level. Sustainability has been defined as "the capacity to maintain program services at a level that will provide ongoing prevention and treatment for a health problem after termination of major financial, managerial, and technical assistance from an external donor" (LaPelle, Zapka, & Ockene, 2006). To maintain HIV programs following reduction in donor funding, the government has prioritised domestic financing for HIV interventions in the Kenya AIDS Strategic Framework (KASF) 2014/15 – 2018/19 (National AIDS Control Council, 2014c). Some of the suggestions for improving sustainability defined in the KASF include increasing government allocation from the treasury, utilising health insurance and setting up a HIV trust fund. According to the Global Fund new funding mechanism, Kenya has to increase its direct contribution to the HIV response or counterpart financing from 5% to 15% due to the reclassification of Kenya as a low middle income country (The Global Fund, 2015). With these changes in the funding landscape, local funding has to increase and HIV programs have to change to ensure sustainability into the future of this chronic disease.

1.1.3 Health services payment methods

Payment methods for health services include fee for service, cost sharing and insurance payments (individual or employee). Cost sharing refers to the share of costs for health services that an individual pays out of their own pocket while the remaining amount is paid by the insurer, employer or subsidized by the government. In insurance, cost sharing includes deductibles, coinsurance and co-payments but does not include premiums.

In Kenya, out of pocket payment (including cost sharing payments) form the highest contribution to the total health expenditure accounting for 40% while only 17% of the health expenditure is covered by public and private insurance (Ministry of Health., 2015). User fees or cost sharing has been used in public health facilities in Kenya since 1989 (Carrin et al., 2008). There is a desire to move the country towards universal health care with higher social insurance coverage.

1.1.4 LVCT Health HIV clinics

LVCT Health is a Kenyan not for profit non-governmental organization (NGO) that was registered in 2001 involved in delivery of HIV services in Kenya. It works closely with the Ministry of Health providing technical support to strengthen systems to deliver HIV and reproductive health services.

LVCT health runs free HIV clinics in Nairobi and Kisumu providing 5000 HIV positive patients free comprehensive HIV care and anti-retroviral therapy (ART). The organization depends on donor funding for over 90% of its programs and 100% for the HIV clinics. The clinics are funded by the US government through PEPFAR (the President's Emergency Plan for AIDS Relief). This funding and support has been gradually reducing over the past five years and is only guaranteed until September 2016. There are certain components of the HIV services such as laboratory tests and opportunistic infections treatment that PEPFAR ceased financing and must be paid for by patients when required.

Although LVCT health runs a fully-fledged clinic with a full complement of clinical staff, consultation rooms, pharmacy and laboratory, the free services offered are only those related to HIV and patients are referred out for other services when required. Over the years some patients have expressed the desire to have the clinics offer them

more comprehensive services for other conditions such as diabetes, respiratory tract infections among others. The organization is considering transforming the clinics into paying clinics to meet client needs and enhance sustainability beyond donor funding. Considerations have to be made for how much to charge clients for services received, what payment methods to use and how to leverage existing health insurance – private, employer and public.

1.2 Problem Definition

The chronic nature and reduced global donor funding landscape for HIV calls for new and innovative ways of financing it. HIV remains a serious communicable disease that suffers from stigma and needs to be managed aggressively with anti-retroviral drugs that have been shown to improve life expectancy among the HIV infected and reduce transmission to the HIV negative. Weaning off the dependency from donor funding is a difficult task. Since elimination of user fees for HIV and the activism that resulted in free HIV treatment in 2004 HIV services have largely been provided free in most countries. HIV treatment is a human rights concern and payment for HIV services through user fees has been shown to reduce uptake, equity and adherence in both developing and developed countries (Batavia et al., 2010; McAllister, Beardsworth, Lavie, MacRae, & Carr, 2013). Charging for HIV services may therefore be seen as a violation of human rights and may not be considered acceptable to the patients and the networks of People living with HIV who have been advocating for free treatment.

The demands on Kenya to increase domestic funding for HIV are increasing and calls have already been made to harness resources from health insurance to cover costs. The National Health Insurance Fund (NHIF) has already started paying for some HIV services. To tap into this and address recent demands to reduce donor dependence for its clinics, LVCT health is seeking to transform its business model from free clinics to a payment model that charges for services received by their clients while expanding the range of services offered. LVCT Health has been running the free clinics for over 10 years and the transformation requires careful planning, knowledge of what clients want and their willingness to pay to inform the process.

There are various methods that are used for payment of health services by patients in Kenya. These vary between public, private and not for profit settings such as faith based organizations. Various factors are considered in determining the types of payment mechanisms to be used including the expected amounts of money to be collected, the type of clientele and costs of services. The common types of payment are cash or out of pocket in form of user fees or fee for service basis or health insurance which can be private or public through the NHIF (Ministry of Health., 2015) It is therefore important to identify suitable payment methods that can work to enable provision of the proposed range of services based on what is used in the country, other similar institutions such as not for profit sector and what patients are willing to use.

Since HIV has been a largely vertical program globally, with significant donor funding, little is known about providing HIV services through a payment for services or cost share model. There is need to document if it would be acceptable to charge for HIV services and the willingness to pay for these services by the patients, factors that influence their willingness to pay and the suitable payment methods that can be used. This study sought to explore and document these factors to provide an evidence base for LVCT Health and the country in making policy decisions about payment for HIV services in order to make it sustainable.

1.3 Research Objectives

Main Objective

To assess if it is acceptable to charge and the willingness to pay for HIV care and treatment services among patients at LVCT Health clinics

Specific objectives

1. To assess the perceptions of the patients on acceptability to charge clinic patients for HIV services.
2. To establish the willingness to pay for HIV care and treatment services among the patients
3. To evaluate factors that influence willingness to pay for HIV services
4. To identify the preferred payment methods that patients would use to pay for health services in the clinic

1.4 Research Questions

1. What is the extent of acceptability to be charged for HIV services among clinic patients?
2. What is the extent of willingness to pay for HIV services among the clinic patients?
3. What are the factors that influence willingness to pay for HIV services?
4. What are the preferred payment methods that patients can use to pay for services offered in the clinics?

1.5 Scope of the study

The study seeks to gain views and perspectives of users/clients of free HIV services in LVCT Health clinics in Nairobi and Kisumu.

1.6 Significance of the study

There is limited literature on acceptability and willingness to pay for HIV services since the growth of donor funding and abolition of user fees in 2006. This study will contribute to that body of knowledge and also address the types of payment mechanisms that HIV clinics can use to provide services to their clients. The study will also provide evidence for use by LVCT health as it undertakes the transition thereby ensuring risks are minimized and increase the chances of achieving the desired outcomes. The results will also inform other programs in Kenya, Africa and internationally that are seeking to transform from fully donor funded to sustainable models.

Results of the study are reported in form of a narrative report with figures, tables and charts. The report will be presented to the University as part of fulfilment of requirements for the degree. The results will be shared with the LVCT health clinical staff and management to inform implementation of any changes to the current practices taking into consideration patients' perspectives. The results will also be shared with the relevant policy making bodies as a basis to inform further research on the area of financing for HIV services from the clients' perspectives which is a current national priority.

Chapter Two: Literature review

2.1 Introduction

2.1.1 The need for sustainability of HIV programs

There have been several calls to ensure HIV programs are sustainable where sustainability means "the continued use of program components and activities for the continued achievement of desirable program and population outcomes"(Scheirer & Dearing, 2011). NGOs have been advised to seek a hybrid of revenue strategies combining donations, earned income, contracts, grants and others each managed and tracked differently and should consist of financial and program sustainability (Bell, Masaoka, & Zimmerman, 2010).

PEPFAR, the largest global funder of HIV interventions since 2003, has initiated a process of building sustainability of its programs by transferring authority to local entities and fully investing HIV/AIDS care and prevention within national programs and local non-governmental organizations (PEPFAR, 2013). The PEPFAR transition is described as a transition away from an emergency response towards integration of HIV within existing services (Katz, Bassett, & Wright, 2013)

2.1.2 The cost and financing for HIV services

The highest costs associated with provision of HIV services are those of the anti-retroviral therapy (ART), laboratory and personnel costs (Galárraga et al., 2011). ARVs accounted for a significant amount, with pre-ART treatment costs demonstrated to be up to a quarter of the ART treatment costs (Menzies et al., 2011). Other determinants of HIV treatment costs included clinical factors such as patient volume, the duration since the clinic began operations (the longer and higher volume of patients the lower the costs) (Menzies, Berruti, & Blandford, 2012).

HIV services have been free in Kenya and globally since 2004 following the declaration by WHO to eliminate user fees in order to increase access and reduce the morbidity and mortality associated with HIV (Gilks et al., 2006),According to the National Health Accounts of 2012/13,even though overall donor funding reduced from

35% to 26% of total health expenditure, donors financed 73% of the HIV/AIDS financing revenues, an increase from 50% in 2009/10. At the same time the government's contribution reduced marginally to 18 percent in 2012/13, from 20 percent and households' contributions declined from 25 percent in 2009/10 to 6 percent in 2012/13 (Ministry of Health., 2015). The same report also showed that the services are mainly offered in government facilities and those offered in private settings have reduced.

Studies on provision of HIV services by the private sector are few. However, the evidence has shown that optimizing the role of the private sector for HIV provision can relieve the public sector to focus resources on those that cannot afford it (Rao, Gabre-Kidan, Mubangizi, & Sulzbach, 2011). Since the introduction of free HIV care and abolition of user fees for HIV care, private for profit facilities have been managing fewer HIV resources with majority being managed by not for profit non-governmental organizations that receive donor funding. Out of pocket expenditure costs for HIV care reduced in several African countries with reliance shifting to donor funded programs. All these factors pose a challenge for sustainability after the exit of the donor funds (Sulzbach, De, & Wang, 2011)

2.2 Empirical review

2.2.1 Acceptability of charging for HIV services

The price of health care service is a major deterrent to service utilization. The majority of the world's poorest are not able to utilize basic health care services of a reasonable quality, because of the inability to pay for the services, hence the assertion that health care is not a commodity or privilege but a social right (Frenk et al., 2009) while health systems remain significantly underfunded (Commission for Africa, 2005). In HIV treatment, provision of free ART has been shown to improve adherence rates while user fees have been associated with delays in seeking care and frequent treatment interruptions. (Batavia et al., 2010). Even in resource rich settings like Australia, pharmacy dispensing and travel costs associated with ART treatment resulted in a 14% delay in accessing treatment and up to 9% stopped their treatment (McAllister et al., 2013).

In the early days of anti-retroviral therapy, many HIV patients in developing countries were not able to access the life saving treatment resulting in very high death rates due to HIV. In 1999, the WHO announced that HIV/AIDS was the fourth biggest cause of death worldwide and number one killer in Africa. An estimated 33 million people were living with HIV and 14 million people had died from AIDS since the start of the epidemic (World Health Organization, 1999). This was considered a major human right violation that informed massive treatment access campaigns globally and especially in South Africa that eventually resulted in lowering the cost of ARVs to eventually eliminating them. Since then, the global direction has been ensuring that ARVs are available to low and middle income countries at subsidized fees paid for by donors such as Global Fund and provided to end users at no cost (AVERT, 2016)

Studies have shown that the public may not find it acceptable to pay or be charged for HIV services. A study on willingness to pay for VCT among Nigerian students showed that 67% of those not willing to pay believed that the services should be free showing the perception that HIV services are generally considered a public good that should not be paid for (Uzochukwu, Uguru, Ezeoke, Onwujekwe, & Sibeudu, 2011)

While it may be difficult or unacceptable to charge for HIV services for the general population, the use of the private sector for HIV testing and counselling and Sexually Transmitted Illnesses (STI) care has been shown to increase among those of a higher wealth quintile (Wang, Sulzbach, & De, 2011). There is therefore need for broader consideration of the role of private for profit especially among the wealthier clients who may accept to pay for HIV services

2.2.2 Willingness to pay for HIV services

Willingness to pay (WTP) is an all-inclusive measure of the perceived benefits of mitigating illness, that constitutes the amount of financial resources that society would be prepared to forgo, in order to eradicate a single case of HIV/AIDS (Hammitt, 2002; Holtgrave, 1998) or to approximate the need for public goods or services, one of the benchmarks that may influence priority-setting for health care interventions (Clarke, 2011). WTP is based on a concept of welfare economic theory, which relies on the fundamental assumption that the maximum amount of money an individual is willing to pay for improved health, is a measure of the value of that health improvement to

them (Hammitt, 2002). In addition, WTP is mostly incorporated in a type of economic evaluation known as cost-benefit analysis (Holtgrave, 1998). WTP values can be employed to aid in setting up priorities by dictating community preferences for health care services.

The assessment of willingness to pay is based on the Contingent Valuation Method (CVM). This is the common method that was originally used for environmental studies (Bateman, Langford, Willis, Turner, & Garrod, 1993) but has recently been used in various medical economics for calculating the benefit in cost benefit analysis (Yasunaga, Ide, Imamura, & Ohe, 2006). The technique is prospective and determines WTP contingent upon a hypothetical market presented to respondents, and is essentially experimental. It is useful for public health goods whose price is unknown. The main idea is to estimate the demand for a commodity for which markets do not exist. (Klose, 1999). A systematic review found that different studies used different types of questions and elicitation formats. It also found various uses such as cost benefit analysis and for establishing price and/or demand. (Diener, O'Brien, & Gafni, 1998). The common value elicitation techniques found in the systematic review include open ended questions, payment cards, discrete choice questions or bidding games.

In the bidding game, an iterative bidding WTP question format is used with higher amounts offered with each round of questions until the highest amount the person is willing to pay is reached (Bateman et al., 1993). In other willingness to pay or willingness to accept studies, a group of different stakeholders are asked how much financial resources they would be willing to pay up or forgo (accept) in order to reduce their risk of acquiring ill health. Then an approximation of the individual's overall WTP can be inferred from their responses (Hammitt, 2002; Holtgrave, 1998).

Other authors have stated that the amount an individual is willing and able to pay for a good or service can be categorised in two ways: through observation and modelling previous health care usage, expenditure as well as responsiveness to price; by directly enquiring from individuals their ability and willingness to pay for a particular health care service or product (Rina S., Rosminah, 2011). To inform price, it is important for researchers to look into individual responses to price through their ability and

willingness to pay for a service or product (Pokhrel, Hidayat, Flessa, & Sauerborn, 2005).

WTP is not however equivalent to the value of the service especially in the case of HIV. A study of WTP on Voluntary counselling and testing (VCT) services when it was introduced in Kenya found that less than five percent of clients were willing and able to pay for the full services, however some level of cost recovery was possible. Clients were willing to pay for $2 compared to $16 for the service (Forsythe et al., 2002). In Nigeria, only 50% of students were willing to pay for VCT services and the mean WTP was half of the costs of the VCT (Uzochukwu et al., 2011)

2.2.3 Factors that influence willingness to pay for HIV services

Health care utilization by individuals is influenced by a number of varying reasons. These include; for instance advice and influence of family members, individual perception of illness, preference of a particular health care service as well as its benefits (Rina S., Rosminah, 2011). Lagarde and Palmer (2008) assert that besides household characteristics, enhancing the quality of primary health care facilities would have significant effects on the use of health care services. The decision to utilize health care services is also influenced by the consumer's purchasing power as well as the price of health services, the presence of health insurance and the place where they access the services i.e. private or public health facilities (Beogo, Huang, Gagnon, & Amendah, 2016). Accordingly, households bear this in mind these factors when seeking health care services.

A systematic review of published and unpublished data, by (Aizuddin, Sulong, & Aljunid, 2012) concluded that several factors influenced individual WTP for health care services. These are, in no particular order, age, education, income, dependency ratio/ household size, perception, healthcare services quality, locality rural/ urban and ability to pay, incremental price and level of utility of a specific service or product as well as access to health services provided. In the Nigeria VCT study, WTP was higher among males and those with higher education than females or those with lower education levels (Uzochukwu et al., 2011). In another study on assessing determinants of out of pocket expenditure In Burkina Faso, age, gender, and relationship with the household head were not significant predictors of health

expenditure (Beogo et al., 2016). A study in Ghana on WTP among HIV positive patients provided a different set of statistics on the factors which influence WTP as shown in Table 1 below (Muko et al., 2004).

Table 2. 1: Factors influencing WTP for HIV services in rural Ghana

Factor	Number of participants	Percentage of participants
Difficulty in getting money	43	66
Perceived stigma	43	66
Experienced stigma manifesting as patient ashamed of status	41	62
Disbelief in efficacy of drugs	22	33
Creditors feel patient will die	16	25
Patients feel well	13	20
Side-effects	1	2

(Source: Muko et al, 2004)

Willingness to pay is heavily influenced by income and economic status. A substantial proportion of residents of informal settlements in Kenya have low and inconsistent income and are willing to forgo healthcare because they cannot afford it. (Buigut, Ettarh, & Amendah, 2015). User fees have been shown to be a barrier to access and impact adherence to long term treatments such as HIV. For example, 12.8% of students failed to attend VCT services that are considered very important for HIV services because they felt it was too costly (Uzochukwu et al, 2011).

2.2.4 Payment methods for health services

Various forms of payment for health care exist. They commonly include user fees, private and public health insurance. "User fees" are the share of costs a patient pays for medical and hospital services covered by public health insurance plans. They include co-insurance, co-payment and deductibles. Co-insurance refers to a system where the patient is required to pay a fixed percentage (say 5%) of the cost of services received. Co-payment is an alternative to co-insurance whereby, instead of having to pay a share of costs, the patient is required to pay a flat fee per service (for example, $5) no matter what the cost of the health care provided. A deductible

system requires the patient to pay the total cost of services received over a given period up to a certain ceiling, above which the insurance will pay independent of the quantity of services received. (Madore, 1993). Extra-billing refers to a scenario where the patient's private contribution pays for what is not covered by the insurance or funder. In this case, the doctor providing the service can bill the patient for an extra fee over and above the established government or financed rate (Madore, 1993)

User fees should be used with caution as they have a negative influence on uptake of health and especially HIV services (McAllister et al., 2013). In Ghana, a majority of patients on HAART stopped treatment after 6 months due to financial constraints (Muko et al., 2004).

Health insurance especially public health insurance has been promoted as the best alternative to reduce catastrophic health expenditure and achieve universal health care (Jamison et al., 2013). Alternative financing mechanisms such as health insurance have been shown to be critical to minimize treatment disruption for HIV positive patients on ART (James et al., 2006). Insured persons are reported to have higher WTP values than the uninsured (Dror, Radermacher, & Koren, 2007)

Public health insurance is insurance that is managed by the government while private health insurance is coverage by a health plan provided through an employer or purchased by an individual from a private health insurance company. Private insurance tends to have restrictions such as exclusions which may influence delivery of HIV services and therefore the willingness to pay: for example before the Affordable Care Act of the United States, HIV was considered a pre-existing condition and was therefore excluded from cover (Antolec & Figueroa, 2014).

2.3 Summary of literature review

The following are the key issues that have emerged from the literature: The first is that Willingness to pay for health services affects uptake of services; the more the WTP, the higher the uptake of services (Buigut et al., 2015; Muko et al., 2004; Uzochukwu et al., 2011)

The second is that WTP is influenced by ability to pay and other factors such as age, gender, education, income, dependency ratio/ household size, locality rural/ urban, and incremental price (Aizuddin, et al, 2012). It is also influenced by patient perceptions which include perception of value and effectiveness of treatment, quality of care and stigma among HIV positive patients (Muko et al., 2004; Uzochukwu et al., 2011). Ability to pay is influenced by income and presence of medical insurance to pay for health care costs (Jamison et al., 2013) (James et al., 2006)

The third is that willingness to pay for a public health good that does not have a market price is best determined using Contingent Valuation Method (Klose, 1999; Yasunaga et al., 2006). WTP studies can be used to determine price and demand for a service (Diener et al., 1998)

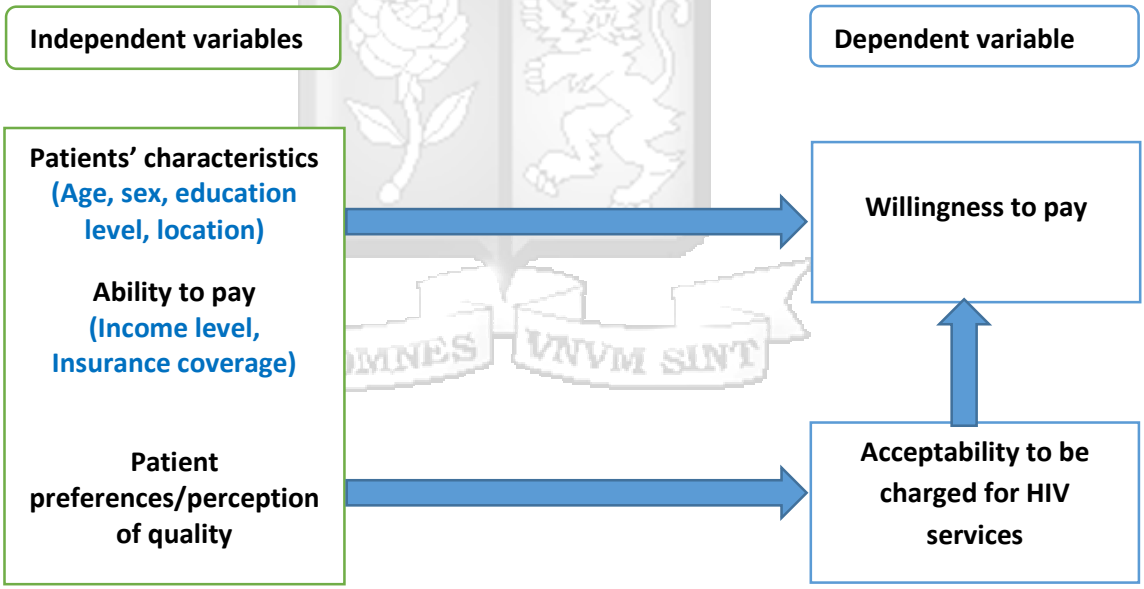
The final point is that acceptability to pay influences and suggests willingness to pay for health services. However, it does not always equal to WTP especially in the long run and strategies must be put in place to ensure patient perceptions and expectations are addressed to sustain the WTP (Muko et al., 2004).

2.4 Conceptual framework

Willingness to pay and acceptability to be charged for HIV services are the two dependent variables. WTP also depends on acceptability to be charged for the services. From the literature, common factors influence the WTP and acceptability to be charged. These include patient demographic factors such as age sex, education level and location which were all assessed independently for association with both the dependent variables. Ability to pay in this case refers to income level of the participants as well as presence of health insurance (private or public).

Patient preferences on the type or quality of care are also factors that influence both the acceptability and willingness to pay. These include their perceptions on how the services are financed and their potential contribution to the payment.

Figure 2. 1: Conceptual framework



Note: each of the independent variables e.g. age, sex, education, level, occupation, income level was collected individually on the questionnaires (appendix B). Insurance coverage was divided into presence of NHIF and presence of private insurance as independent questions. Patient perceptions were assessed using a Likert scale

Each of the individual variables will be assessed independently using descriptive statistics and associations with both dependent variables assessed as described in the data analysis section (3.4)

Chapter Three: Research Methodology

3.1 Research design

The study utilized a cross-sectional survey design utilising quantitative data with some qualitative data in form of open ended questions. It involved use of self - administered questionnaires among patients of the LVCT Health HIV clinic in Hurlingham and the Tivoli HIV clinic in Kisumu County, Kenya, Nairobi. The survey design was most appropriate to capture the views of a randomly selected wide range of patients from both clinics who would be representative of the clinic population.

3.2 Population and sampling

The study sites were the LVCT Health Hurlingham HIV Clinic in Nairobi and the Tivoli HIV clinic in Kisumu County, Kenya. The study population consisted of the patients of the two clinics which have over 5600 patients (3800 Hurlingham and 1800 in Kisumu). The study included all adult clients who had been attending the clinic for over 6 months and consented to be included in the study while all clients who declined to consent, those who had been enrolled in the clinic for less than 6 months and those less than 18 years were excluded from the study.

3.2.1 Sample size estimation

The sample size was calculated using the formula as used by Fisher et al (1998). Proportion of the clients who would be willing to pay for services was unknown. For purposes of sample size calculation it was estimated at 50% (p=0.5). For 95% confidence interval alpha level was set at 0.05 with acceptable error at 5% then;

$$n = \frac{Z^2pq}{d^2}$$

Where:

n=the desired sample size

Z= value for selected alpha level of .025 in each tail = 1.96.

P=0.5⇒ q⇒ 1-q⇒ (p)(q) = estimate of variance =0.25

d=error margin taken to be $\pm$5% for this study

Hence $= \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2} = 381$

The clinics have a total of 5600 clients. A correction of the finite population was obtained by applying the formula

nf=n/(1+n) N

where;

nf=the desired population size

Where "N" is the total population size

$$nf = \frac{381}{(1 + (381/5600))} = 356$$

356 clients were targeted for this study.

To compensate for non-response rate caused by people who would not be able to participate in the study, the sample size was increased by 10% making it **390**

3.2.1.1 Sampling procedure

Patients were sampled through simple stratified random sampling. The patients were stratified geographically (Nairobi: Kisumu 2:1). Data collection was carried out over a period of three weeks in March 2016 from patients attending the clinic for their regular appointments. The questionnaires were offered to all patients who attended the clinic during the period and administered to those who consented to participate in the study.

3.3 Data collection methods

The data were collected through self- administered questionnaires issued to the patients while in the clinic after their consultation. Data on willingness to pay were collected using the bidding method. Respondents were asked to state the maximum amount of money they are prepared to pay for a package of services in the clinic (consultation, laboratory tests and drugs for opportunistic infections) per visit (average 4 visits per year). Each respondent had a maximum of four choices of price ranges to

make that would be the highest they would be willing to pay knowing that the higher they paid, the more services they would receive. The average cost of the services was based on the current calculated cost of providing the service that is paid for by donors but excluding the cost of anti-retroviral treatment (ARVs). This is estimated to be Ksh 20,000 per year or Ksh 5,000 per visit. Income was ascertained through asking patients' income in bands or categories

Data handling – all completed questionnaires were stored safely in a locked cabinet accessible to the researcher only. The questionnaires had no names or identifying marks or symbols of the study participants to ensure confidentiality. Once data was entered into an electronic system it was stored in a password protected computer with access limited to the researcher only.

3.4 Data analysis

Data were analysed in line with the objectives. Quantitative data analysis techniques were used using SPSS version 20. The analysis included both descriptive and inferential statistics based on the type of data collected (nominal or categorical). Results are presented in form of tables, charts, graphs and narratives.

The detailed analysis plan was as follows:

Overview of the respondents: Descriptive statistics were used to provide an overview of the socio-demographic and other characteristics of respondents as defined in the conceptual framework. The data is presented in form of frequencies, percentages in tables and graphs as appropriate. The characteristics were; Patients' characteristics - Age, sex, education level, location, income level, presence of insurance – NHIF and/or private

Objective 1: To assess the perceptions of the patients on acceptability to charge clinic patients for HIV services

Descriptive statistics were used to describe the frequencies and percentages of those who find it acceptable to pay. Crosstabs were used to compare with age, sex, education level, location, income level and presence of insurance. Chi square test (significance at $p<0.05$) was used to assess if there was any association between location, age, sex, education, occupation, income level and presence of insurance and acceptability to

pay for HIV services. The qualitative responses on why or why it is not acceptable to pay were grouped into themes with the most common emerging themes reported.

Objective 2: To establish the willingness to pay for HIV care and treatment services among the patients and ***Objective 3***: To assess factors that influence willingness to pay for HIV services

Descriptive statistics were used to describe the frequencies and the percentages of those willing to pay and the amount they are willing to pay. Crosstabs were used to analyse the data by socio-demographic characteristics (location, age, sex, education level, occupation, income level, presence of insurance). Chi square test (significance at $p<0.05$) was used to assess if there is a significant association between location, age, sex, education, occupation, income level and presence of insurance, acceptability to pay for HIV services and i) willingness to pay and ii) amount they are willing to pay.

From the conceptual framework, the socio-demographic characteristics were some of the factors that influence WTP. Patient satisfaction was assessed as another factor that influences WTP. The level of patient satisfaction was assessed and chi square tests done to assess if there is any association with the WTP.

Since the dependent variable data is categorical, logistic regression was conducted for any factors for which there is a significant association using the Chi square test to determine the factors that are most significantly associated with the amount they are willing to pay.

Objective 4: To identify health care payment methods for services that patients would use to pay for health services in the clinic

Descriptive statistics in form of frequencies and percentages, were used to analyse the payment methods the respondents prefer to use to pay for health services, presence of health insurance, willingness to use their insurance on HIV care or not and reasons why they may not be willing to use insurance on HIV care. Chi square (significance at $p<0.05$) was used to assess associations between the type of health care payment method and the socio-demographic characteristics.

3.5 Research Quality

Reliability describes how far a particular test, procedure or tool, such as a questionnaire, will produce similar results in different circumstances; i.e. if it used by different users and at different times (Roberts, 2006). Cronbach's alpha methodology, which assessed internal consistency of individual questions in a questionnaire was used.

Validity – Validity describes the extent to which a measure accurately represents the concept it claims to measure (Punch 1998). External validity addresses the ability to apply with confidence the findings of the study to other people and other situations. It is ensured by drawing representative samples of the population of interest and in reference to relevant variables such as age and gender. Internal validity helps to reduce unanticipated reasons for different outcomes than those expected. Internal validity can be ascertained through use of literature review to develop the questionnaires and pilot testing the questionnaire with people who are similar to the study respondents (Punch 1998)

The questionnaire was based on the research questions and the conceptual framework of the study that was informed by a literature review. The study selected a pilot group of 10 individuals from the target population to test the reliability of the research instrument. The pilot study enabled the researchers to be familiar with the questionnaire and its administration procedure as well as identifying items that required modification to enhance its validity and reliability.

To minimize response bias, research assistants who assisted with data collection were trained prior to administering it. Patients were informed that their responses are anonymous and would not in any way influence the services they receive. In addition, patients were allowed to seek clarification for whatever was not clear.

3.6 Ethical issues in research

Ethical approval was given by the Strathmore University Institutional Review Board, approval number; SU –IRB 0027/15 dated 3rd March 2016 (appendix C). No patient information was reviewed or reported during the study. Voluntary written consent was sought before questionnaires were filled (patient consent form, appendix B). Illiterate

participants were assisted to understand the consent form by the research assistant. A witness selected by the participant witnessed the consenting process and signed on the form to attest that the information was accurately explained to the participant. There were no anticipated risks for participants in the study and participation in the study did not affect their access to services. The participants did not directly benefit from the study but the results will be used by LVCT health to inform program implementation that will benefit all patients. The risks and benefits of the study to the participant were explained on the consent form.

Any identifiable data that may have been reported was removed prior to data analysis. The data forms used coded numbers and the consent forms with client names were stored separately from study questionnaires. All data forms were stored securely in a lockable cabinet accessible to the researcher only. The soft copies of the data were stored in a password protected computer only accessible to the researcher.

3.7 Limitations of the study

Even though the study had significant findings, there are some limitations that were noted. The findings are not generalizable to the country or all health facilities as it was done in only NGO sites in only 2 counties. The WTP elicited was in categories therefore making it difficult to determine the actual WTP amount. Some patients especially in Nairobi were fearful of the purpose of the study assuming it meant that they would be charged for services. This may have created a response bias in the questionnaire.

Chapter Four: Presentation of Research Findings

4.1 Introduction

This chapter presents the findings obtained from the data collection and analysis. The chapter is organized into subtopics aligned to the objectives. The first subtopic gives an overview of the demographic characteristics of the participants. Subsequent sections present data on acceptability of HIV patients paying for HIV services, willingness to pay and the amount the participants were willing to pay for HIV services, factors influencing WTP and finally, the preferred methods for paying for health care. The results are presented in form of narratives, tables and graphs.

4.2 Demographic characteristics

Overall, 360 patients in the clinic were reached to respond to the survey. 337 (94%) respondents agreed to respond to the questionnaire and had usable responses.

Of the 337 respondents, 215 (63.8%) were from Nairobi and 122 (36.2%) from Kisumu. 53.6% of the respondents were female. Majority (60%) of the respondents were between 25-44 years. 75.2% reported to be either employed or self-employed with only 18% saying they were unemployed. There were more self- employed (44.3%) and unemployed (23.8%) respondents in Kisumu than in Nairobi, 36.3% and 15.8% respectively. Majority, 43.7% (59% in Kisumu and 34% in Nairobi) of those who reported their income earned less than Ksh 20,000. 59.2% were enrolled in NHIF with a similar proportion in Nairobi (60.2%) and Kisumu (58.7%). Only 22% had private medical insurance, 27.5% in Nairobi and 14.2% in Kisumu.

Table 4.1 is a summary of the demographic characteristics of the respondents

Table 4. 1: Demographic Characteristics (n=334)

		Frequency	Percent	Cumulative Percent
Age	18-24	42	12.6	12.6
	25-34	109	32.6	45.2
	35-44	92	27.5	72.8
	45-54	65	19.5	92.2
	>55	26	7.8	100.0
Sex	Male	154	46.4	46.4
	Female	178	53.6	100.0
Education	No schooling completed	9	2.7	2.7
	Primary school completed	52	15.8	18.5
	High school completed	117	35.5	53.9
	Certificate	25	7.6	61.5
	Diploma	64	19.4	80.9
	Bachelor's degree	39	11.8	92.7
	Post graduate degree	24	7.3	100.0
Occupation	Student	20	6.0	6.0
	Employed	120	35.8	41.8
	Self employed	132	39.4	81.2
	Unemployed	63	18.8	100.0
Income (Ksh)	Under 20,000	141	43.7	43.7
	20,000-49,999	54	16.7	60.4
	50,000-100,000	25	7.7	68.1
	Over 100,000	7	2.2	70.3
	Would rather not say	96	29.7	100.0
Duration attended clinic	<1 yr	71	21.2	21.2
	1-3 yrs	92	27.5	48.7
	3-5 yrs	66	19.7	68.4
	>5 yrs	106	31.6	100.0
NHIF	Have NHIF	192	59.6	59.6
	Don’t have NHIF	130	40.4	100.0
Private medical insurance	Have private medical insurance	64	22.0	22.0
	Don’t have private med insurance	227	78.0	100.0

4.3 Acceptability to be charged for HIV services among clinic patients.

When asked if it is acceptable for HIV patients to pay for the HIV services they receive, only 16.3% of respondents (19% in Nairobi and 11.5% in Kisumu) responded that it was acceptable. Patients were further asked if it was acceptable to be pay (or be charged for services) if donor funds were withdrawn and 57.8% of the patients stated that it was acceptable. This was statistically significant using Chi square (p=0.000).

Table 4. 2: Acceptability for HIV positive patients to pay for HIV care services (n=332)

		Frequency	Percent	Cumulative Percent
Valid	Yes	54	16.3	16.3
	No	278	83.7	100.0

Chi square tests were done to determine association between the independent variables and acceptability to pay. There was a significant association ($p<0.05$) between acceptability to pay and income level, having previously paid for HIV services, enrolment in NHIF and presence of private medical insurance. There was no significant association with location, age, sex, education or occupation. The findings are as shown in table 3 below:

Table 4. 3: Association of independent variables with acceptability to pay

		In your opinion is it acceptable for HIV positive patients to pay for HIV care services?			
		Yes	No	Total	p-value
Site location	Nairobi	40	170	210	.071
	Kisumu	14	108	122	
Age in years	18-24	5	35	40	.071
	25-34	13	95	108	
	35-44	22	69	91	
	45-54	7	58	65	
	>55	6	19	25	
Sex	Male	29	124	153	.246
	Female	25	151	176	
Education	No schooling completed	0	9	9	.313
	Primary school completed	6	46	52	
	High school completed	15	99	114	
	Certificate	7	18	25	
	Diploma	11	52	63	
	Bachelor's degree	8	30	38	
	Post graduate degree	5	19	24	
Occupation	Student	2	18	20	.327
	Employed	23	96	119	
	Self employed	22	107	129	
	Unemployed	6	56	62	
Income level	Under 20,000	20	120	140	.000*
	20,000-49,999	10	43	53	
	50,000-100,000	9	15	24	
	Over 100,000	4	3	7	
	Would rather not say	7	87	94	
Ever paid for HIV services before.	Yes	16	24	40	.000*
	No	38	253	291	
Enrolled in NHIF	Yes	39	152	191	.005*
	No	11	115	126	
Private medical insurance	Yes	17	46	63	.003*
	No	26	198	224	

*statistically significant associations by Chi square

4.3.1 Reasons why patients found it unacceptable to pay for HIV services

From the qualitative responses on why they found it unacceptable to pay for services, the following were the main reasons (in order of priority):

Poverty was cited by a majority of the study participants as a reason not to charge HIV patients for the services. They stated that majority of the HIV patients are poor, have unsteady income and cannot afford HIV treatment which includes expensive anti-retroviral drugs and the treatment is lifelong

'Some of us have no income at all and very poor and the services should be for a lifetime.'

"I might not afford to pay for the services."

"They are vulnerable people mostly and may not have means of finance."

Some participants stated that the government and donors are paying for it and it would therefore be unacceptable to charge for it.

"The global fund has brought the drugs for free"

"People should be helped by world organizations."

Others addressed it from a human rights perspective stating that HIV treatment is a human rights issue, some people got it through no fault of their own e.g. through accidents or spouses and the medical effects are terrible and need to be treated at no cost or should be heavily subsidised

"It's not possible and not right to ask a sick for money to pay"

"Death rate will be high."

For those who found it acceptable to pay, many stated that it can be charged but at a subsidized rate. Their main reasons varied across the respondents as shown below:

Participants responded that there is need for the country and LVCT Health to reduce reliance on donors and supplement existing funds and for HIV positive patients to contribute to their treatment.

'Based on how things are now, we don't have to rely on donors forever. Subsidized amount charged.'

HIV patients should give something back or should pay part of the fee for good job and help.

A common theme was the idea of sharing wealth between the wealthy and the poor to pay for HIV services.

'Because some HIV patients are wealthy people and they can do so to help the poor'

'My contribution can help those who are weak, medicine buy clothes and provide them with food'

Others specified the components that they felt should be charged for, including those who require premium services and should therefore be expected to pay for them

'Should they require premium services not supported by donors'

'Small fee can be charged to cater for consultation and counselling services'

Finally, several participants presented the concept that patients should take responsibility for their own health and contribute towards paying for it.

'One's health is a personal responsibility though any assistance from somewhere else is appreciated.'

'Because it is my health and I should be responsible for it.'

'HIV is a health condition like any other and I would accept paying for any services for my health'

4.4 Willingness to Pay for HIV services

Patients were asked two questions on willingness to pay. The first was if they would be willing to pay and if so, the follow on question was how much they would be willing to pay. When asked if they would be willing to pay for HIV services, 64.5% said they would be willing to pay. This was higher in Nairobi at 66% compared to 59% in Kisumu.

Table 4. 4: Respondents who would be willing to pay for services in LVCT clinics

		Frequency	Percentage	Cumulative Percent
Valid	Yes	214	64.5	64.5
	No	118	35.5	100.0

Of those willing to pay for services, majority (74.9%) were willing to pay less than Ksh 2000 every 3 months to receive the treatment as shown in table 5 below. The percentage of respondents who were willing to pay the minimal figure i.e. less than Ksh 2000 was higher in Kisumu (87.5%) compared to Nairobi (68%). There was a statistically significant difference between the WTP in Nairobi and that in Kisumu (p=0.037). 19.7% were willing to pay Ksh 2000-5000 which is the reference amount. Overall, 25.4% were willing to pay amounts within or above the reference range.

Table 4. 5: The highest amount respondents would be willing to pay (n=213)

		Frequency	Percent	Cumulative Percent
Valid	Not more than Ksh 2,000	159	74.6%	74.6
	Ksh 2,001-5,000	42	19.7%	94.4
	Ksh 5,001-10,000	8	3.8%	98.1
	Ksh 10,001-20,000	3	1.4%	99.5
	Above Ksh 20,000	1	0.5%	100.0

Participants were further asked if they would still be willing to pay for the services at the LVCT health clinic if their income declines, for whatever reason including loss of a job or failure in business. 29.5% of respondents reported that they would still be willing to pay for the services (Table 4.6). When asked how they would finance it, the most common response from the qualitative responses was that their health is a priority and they would look for alternative means of payment as shown by the statement; '*I would rather struggle to get money than die early'*.

Majority said they would use their savings, have a side business or ask friends and relatives. This was an interesting finding considering that options exist for going to

public facilities but it is possible they are either not well known to the patients or the patients perceive them to be of poor quality.

Table 4. 6: Respondents who would still be willing to pay for services at the LVCT clinic if their income declines (n=329)

		Frequency	Valid Percent	Cumulative Percent
Valid	Yes	97	29.5	29.5
	No	232	70.5	100.0

4.5 Factors that influence willingness to pay for HIV services

Chi square test was done to assess if there was a significant association between the variables stated in the conceptual framework and their willingness to pay and the amount WTP. There was a significant association ($p<0.05$) between willingness to pay, the amount the respondents were willing to pay and acceptability to pay for HIV services, education level, income level, having previously paid for HIV services, enrolment in NHIF and presence of private medical insurance. There was a significant association ($p<0.05$) between age and the amount the respondents were willing to pay but not with overall willingness to pay. Table 7 below summarises the variables, the Chi square and the p value.

Quality of care as a function that influences WTP was assessed by determining the rating of the quality of care using a Likert scale and conducting Chi square tests of association between patient rating of quality and willingness to pay. Overall, 88% (88.3% Nairobi, 90.9% in Kisumu) of respondents rated the quality of service as good, very good or excellent. Using Chi square, there was no significant association between patient rating of quality and willingness to pay ($p=0.081$) or the amount the clients are willing to pay ($p=0.784$)

Table 4. 7: Summary of association of variables with willingness to pay

	Willingness to pay		Amount willing to pay	
Variable	**Chi- Square Value**	**p-value**	**Chi- Square Value**	**p-value**
Location	2.493	0.114	10.238	0.037*
Age	1.334	0.856	28.31	0.029*
Sex	0.004	0.949	7.580	0.108
Education level	16.064	0.013*	35.475	0.008*
Occupation	6.172	0.104	8.249	0.509
Income	22.972	0.000*	93.83	0.000*
Duration attending clinic	2.147	0.542	7.573	0.818
Previously paid for HIV services	5.312	0.021*	14.532	0.006*
Acceptability to pay for HIV services	22.660	0.000*	12.408	0.015*
Enrolled in NHIF	11.900	0.001*	8.697	0.034*
Private Insurance	8.716	0.003*	20.895	0.000*

*those with significant associations using Chi square

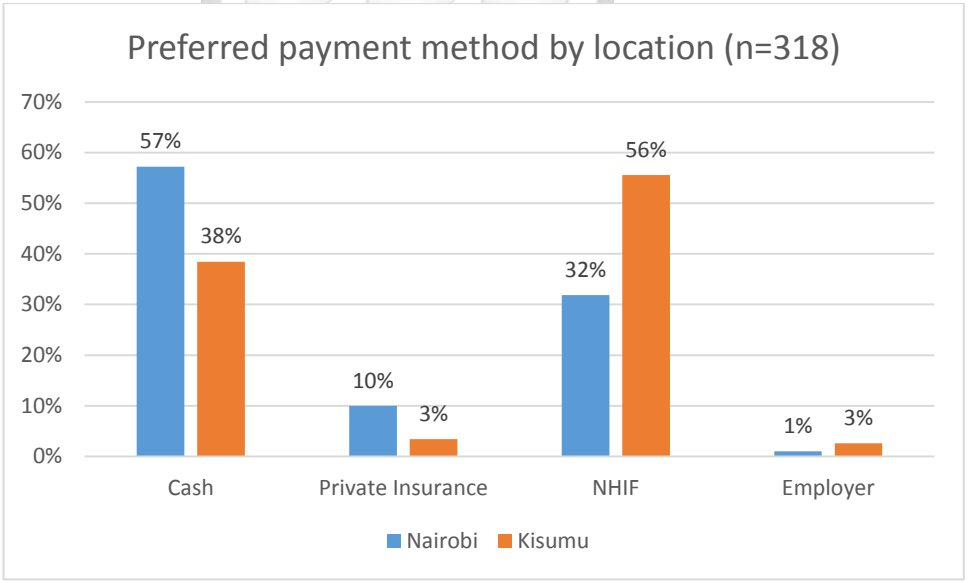
4.6 Health care payment methods

The most common methods of payment made for health care in Kenya are cash (out of pocket payments), insurance (private or NHIF) and/or employer payments.(Ministry of Health., 2015). Overall, 50.3% of patients stated that they would use cash to pay for services at the clinic while 40.6% would use NHIF to pay for health services. There was a significant association between the method of payment and location (p=0.000) with more patients willing to use cash in Nairobi while more patients preferred to use NHIF in Kisumu

Table 4. 8: Preferred methods of payment methods for health care (n=318)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Cash	160	47.5	50.3	50.3
	Private Insurance	24	7.1	7.5	57.9
	NHIF	129	38.3	40.6	98.4
	Employer	5	1.5	1.6	100.0
	Total	318	94.4	100.0	

Figure 4. 1: Preferred methods of payment for health care by location



There were significant associations noted between the payment method and age, education, occupation, income level as shown in the table below. Using logistic regression, location and education were found to have the strongest associations with the payment method patients preferred to use.

Table 4. 9: Associations between method of payment and demographic variables

		Cash	Private Insurance	NHIF	Employer	Total	p-value
Site location	Nairobi	115	20	64	2	201	
	Kisumu	45	4	65	3	117	0.000*
Total		160	24	129	5	318	
Age in years	18-24	27	4	7	1	39	0.009*
	25-34	59	13	35	0	107	
	35-44	36	3	44	2	85	
	45-54	25	4	29	2	60	
	>55	12	0	12	0	24	
	Total	159	24	127	5	315	
Sex	Male	71	10	62	2	145	0.885
	Female	88	13	65	3	169	
Total		159	23	127	5	314	
Education	No schooling completed	5	0	3	0	8	0.023*
	Primary school completed	26	2	20	0	48	
	High school completed	57	5	48	1	111	
	Certificate	14	2	8	0	24	
	Diploma	28	4	28	1	61	
	Bachelor's degree	15	10	10	2	37	
	Post graduate degree	11	1	11	1	24	
Total		156	24	128	5	313	
Occupation	Student	15	2	3	0	20	0.007*
	Employed	44	10	55	4	113	
	Self employed	63	10	54	0	127	
	Unemployed	38	2	16	1	57	
Total		160	24	128	5	317	
Income level	Under 20,000	66	5	63	1	135	0.008*
	20,000-49,999	22	6	21	2	51	
	50,000-100,000	7	5	12	0	24	
	Over 100,000	4	0	2	1	7	
	Would rather not say	51	6	29	1	87	
Total		150	22	127	5	304	

*statistically significant using Chi square($p<0.05$)

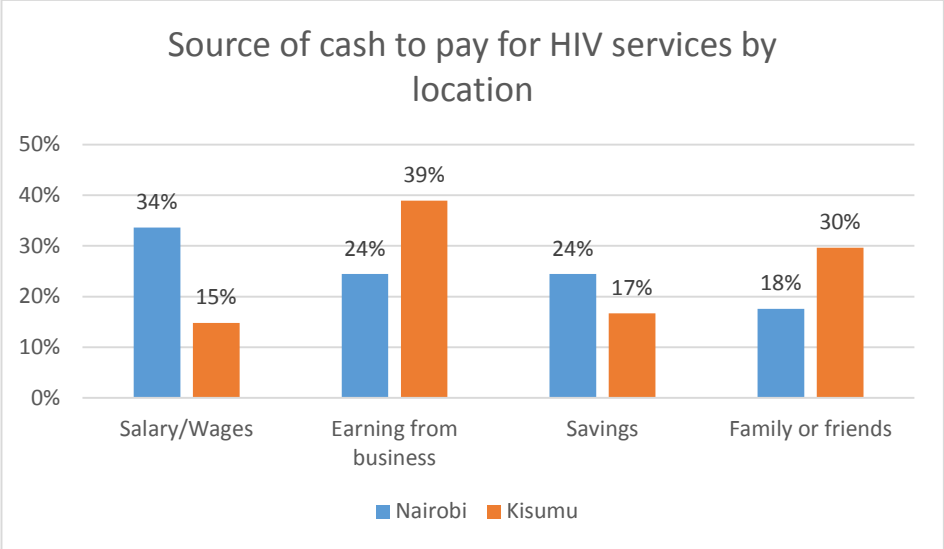
4.6.1 Source of funds to pay for HIV services

Patients who stated that they would pay for their health care using cash were asked about the sources of funds to pay for HIV services. An almost equal proportion of patients reported that they would get funds from salaries or wages (27.5%) and earnings from business (28%). 21.7% stated that it would be from savings while 20.6% stated that they would get funds from family or friends. There was a significant difference between responses for Kisumu and Nairobi (p=0.017). In Nairobi, more participants stated they would use salaries or savings while in Kisumu, more participants stated that they would use earnings from business and family or friends. This trend matches the country statistics that show that people in rural areas of Kenya and especially the former Nyanza province rely on funds from relatives in urban areas for their needs. The rate of employment is also higher in Nairobi than Kisumu (County fact sheets).

Table 4. 10: Source of funds to pay for the services (n=189)

	Frequency	Percent	Cumulative Percent
Salary/Wages	52	27.5	27.5
Earning from business	53	28.0	55.6
Savings	41	21.7	77.2
Family or friends	39	20.6	97.9
Not applicable	4	2.1	100.0

Figure 4. 2: Source of cash to pay for HIV services by location



4.6.2 Presence of health insurance

59.6% of patients reported that they were enrolled in the National Hospital Insurance Fund (NHIF). The proportion was similar for both Nairobi (60.2%) and Kisumu (58.7%). This is much higher than the national average where only 17% of the public are covered (Ministry of Health., 2015). Private insurance cover was much lower, reported by 22% of the patients; 27.5% in Nairobi and 14.2% in Kisumu (p=0.007)

4.6.3 Willingness to use health insurance to pay for HIV services

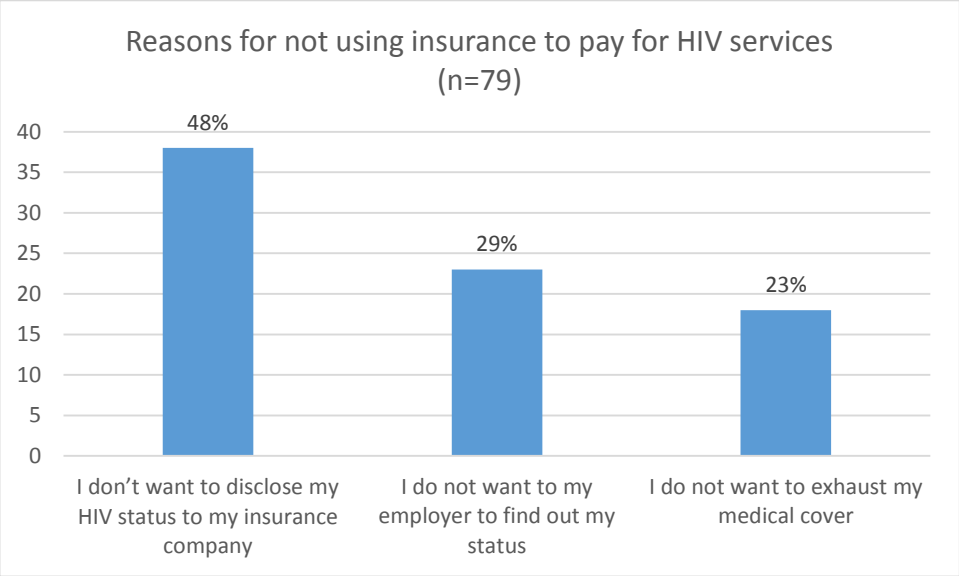
Patients with health insurance use it to cater for treatment in private facilities with some using it in public and faith based facilities. The participants were asked if they would be willing to use their existing health insurance to pay for HIV services in the LVCT Health clinic. 60.8% of patients were willing. A significantly higher proportion of patients in Kisumu (76.5%) than Nairobi (50.3%) were willing to use health insurance to pay for their HIV services (p=0.000). This may indicate lower levels of stigma among the Kisumu patients than Nairobi patients as use of insurance may suggest that third parties would find out that they are seeking HIV services

Table 4. 11: Patients willing to use their health insurance to pay for HIV services in the clinic by location (n=286)

	Nairobi		Kisumu	
	Frequency	Percent	Frequency	Percent
Yes	86	50.3	88	76.5
No	85	49.7	27	23.5
Total	171	100.0	115	100.0

Majority (48%) of those not willing to use it did not want their insurance company to find out about their HIV status while 29% did not want their employer to find out about their HIV status. These reasons were similar for both Kisumu and Nairobi. This reflects the high levels of stigma around HIV that still remain in Kenya and affect uptake of services (National AIDS Control Council, 2014b)

Figure 4. 3: Reasons for not using insurance to pay for HIV services



Chapter Five: Discussion, Conclusion and Recommendations

5.1 Introduction

This chapter presents a discussion of the key findings from the study and provides recommendations that should be taken forward. Overall, the study has demonstrated that when confronted by the possibility of donors not paying for HIV services, majority of the patients (58%) found it acceptable to be charged for HIV services at the clinic. The results have also shown that even though they were willing to pay, 75% were willing to pay only the minimal amount required therefore requiring a subsidy. The key factors that were found to have an association with the willingness to pay were location, income, education level, presence of health insurance, having paid for HIV services before. There was an association between acceptability be charged for services and willingness to pay and that the preferred health care payment methods included cash and health insurance with some specific concerns over health insurance which are discussed in this chapter.

5.2 Discussion

5.2.1 Acceptability to be charged for HIV services

Kenya has utilized donor funding to scale up and increase access to HIV services since 2004. Services have largely been provided free of charge in public, faith based and NGO settings, unlike other health services with the exception of maternal and child health services. This may explain why the level of acceptability to pay may have been low among study participants who have been beneficiaries of free services for a long time now. The change from 16% to 58% acceptability once the patients were asked if it was acceptable if donors withdrew funding and the qualitative responses from suggests that patients understand that the services are largely donor funded and without donors there is need for other mechanisms to pay for the crucial services. Payment for HIV services is an emotive and controversial issue that must be considered from various angles. HIV is a communicable disease that is expensive to treat with ARVs and requires lifelong treatment. If untreated it has an effect on the individual as it can result in death or prolonged illness and can easily be spread to

others resulting in health, economic and development consequences as seen in the early years of the epidemic (Dixon, McDonald, & Roberts, 2002). All these pose human rights challenges which have an influence on whether HIV services should be charged or not.

In the analysis of qualitative responses many patients found it unacceptable to pay because of poverty and inability to pay with a few raising concerns over rights of the patients and the worsening of the epidemic through death and spreading of the infection if the patients are asked to pay. From the data, 18% of the patients were unemployed, and 44% stated that they earn less than Ksh 20000 per month a figure that was predictably higher in Kisumu which ranks lower than Nairobi on economic performance. Evidence has shown that HIV is a disease of poverty and causes poverty (ILO, 2005) which may confirm why majority of the patients reported that they were poor and may not be able to afford the chronic treatment.

The arguments for elimination of user fees for HIV services over 10 years ago were based on the need to ensure equity and access to lifesaving ARVS among HIV patients and reduce the mortality especially in developing countries (Gilks et al., 2006; Gilson & McIntyre, 2005). The resultant removal of user fees resulted in a substantial improvement in access to treatment for HIV positive individuals and a reduction in AIDS deaths by 42% since the peak in 2004 (UNAIDS, 2015). A reversal of this trend should be avoided therefore caution should be taken in introducing charges that may affect uptake and utilization of services.

The patients who found it acceptable that HIV positive patients can be charged for health services that have been free specifically stated the need to reduce reliance on donors for the sustainability of services as has been stated by many authors who are urging countries to seek other sources of financing beyond donors (LaPelle et al., 2006; The Global Fund, 2015). Though none of the respondents specifically stated that insurance should be used to pay, some of them made recommendations for pooling of resources from the wealthy to pay for the poor. This is in line with the calls for universal health coverage through national insurance mechanisms as a means to pay for HIV services such as what was done in Mexico's national health reform (Knaul et al., 2012). This model of subsidizing health care costs for the poor has been successfully used in some programs such as Lions Eye Hospital in Kenya and Aravind

in India (Aravind, 2011) and may be considered in delivery of HIV interventions in Kenya as a way of tapping into existing resources.

5.2.2 Willingness to pay

The CVM method was effectively employed to determine WTP in this study through enabling elicitation of amounts patients were willing to pay for services that were previously not charged. This is in line with other studies that have demonstrated that CVM is an ideal method for determining WTP and price for public goods. (Yasunaga et al., 2006)

The high level of people willing to pay (74%) is very encouraging, however, of note is that at Ksh 2000 and below, the WTP amount is less than the supposed reference (which was based on a model that provided ARVs at no cost to the patient) showing that there will still be need for a subsidy to cover the costs of the services alongside providing free ARVs. Forsythe et al, 2002, found that the WTP for VCT in Kenya was lower than the cost and that a subsidy would be required. The same was determined in a Nigeria study on WTP for VCT among university students (Uzochukwu et al., 2011). There are however some exceptions such as a recent study in Vietnam on WTP for VCT services which found that those with university level of education were willing to pay more (Nguyen et al., 2016). Conversely, in a study on willingness to pay for Voluntary Medical Male Circumcision in Kenya, majority of patients were not willing to pay regardless of the cost (Wandei, Nangami, & Egesa, 2016) because they did not consider the intervention necessary. The fact that ARVs have been shown to be lifesaving makes it more likely that patients would be willing to pay than prevention interventions for which immediate benefits are not seen as has been proven for other disease conditions(Corso, Hammitt, Graham, Dicker, & Goldie, 2002).

The WTP figures provide a reference point for establishing a price to start charging previously free services and establishing that there would be demand for the services even if they are charged as demonstrated in the systematic review of studies on WTP (Diener et al., 1998). In this case the clinic can be able to use Ksh 2000 per visit as a

reference range from which to start charging a range of services while considering the specific needs of the different patients

The difference in WTP in the two counties demonstrates how these findings are not generalizable for all settings within the country. From the data, the proportion of participants willing to pay higher was more in Nairobi than Kisumu even though in both counties the proportion who reported willingness to pay was similar. This difference informs how a system has to consider the uniqueness of different geographical locations even within a country and may inform the need for a phased or pilot approach to introducing payment for services with rates varying by geographical location to ensure equitable access to lifesaving interventions.

5.2.3 Factors that influence willingness to pay

From literature that informed the conceptual framework, the common factors influencing WTP for health services include gender, income, education, price, age among others. This study has demonstrated significant association between income, education level, presence of medical insurance and having previously paid for HIV services with the amount participants are willing to pay. These are discussed in more detail below. Income level was found to be a key factor associated with willingness to pay. Studies have demonstrated that demand for medical care is price sensitive and that the poor are more price sensitive than the rich. A study on WTP for malaria combination treatment in Nigeria found that those of the highest socio-economic status were more willing to pay than those of low socio-economic status showing how user fees may not be equitable or worthwhile without a subsidy for the poor. These factors influenced policy on introducing user fees with the aim of ensuring that the user fees would be low and government subsidies would enhance equitable access. (Onwujekwe, Uzochukwu, Shu, Ibeh, & Okonkwo, 2004, Gertler & Gaag, 1990).

Gender was found to be a predictor of willingness to pay. This is similar to other studies where gender has been a factor influencing WTP where women are generally willing to pay less than men. Studies on gender dynamics in Africa have shown that women tend to follow the decisions of their husbands on health utilization and tend to

be dependent on men for finances that enable them to seek health services (Speizer, Story, & Singh, 2014). This is unlike in a study in South Africa that found that women's opinion mattered in accessing contraceptive services and utilization of health services and they were not dependent on men for these decisions (Maharaj & Cleland, 2005)..

The study findings demonstrated a strong association between those who had paid for HIV services before and WTP. The reasons for transitioning from the private paying services to free services were not explored in this study, but from the author's experience patients tend to transfer from private physicians to the clinic when they run out of funds possibly due to loss of a job or other source of reduced income. In this scenario, it is possible that such patients understand the benefits of paying and may be willing to pay if they considered the prices comparatively lower to what the private for profit facilities charge.

Presence of health insurance, especially private insurance came out as strongly associated with willingness to pay in this study. Literature has shown that insured persons are reported to have higher WTP values than the uninsured (Dror et al., 2007). Health insurance takes away the cost of paying for health care from the individual to the payer hence increasing utilization. This may explain why presence of private medical insurance is strongly associated with a higher WTP in this study. NHIF was however, not found to have as strong association with WTP. This could be due to the fact that in Kenya, NHIF has not been associated with outpatient coverage or payment for HIV. NHIF has been undergoing a restructuring process that has resulted in increased premiums, inclusion of informal workers and has increased its benefit package. The enhanced cover has been in effect since November 2015 and includes cover for HIV and other chronic illnesses in both public and private hospitals (National Hospital Insurance Fund, 2015). The lack of association may suggest that patients in the clinic are not aware of these changes in NHIF and may therefore not realize that it has a potential benefit to them to pay for the HIV services. Of the participants 59.6% of patients had NHIF, 22% of them had private medical insurance (possibly in addition to NHIF). This can form a useful resource for LVCT to finance the services in the clinic if the insurers can cover HIV services in the clinic in a sustainable manner that also limits the burden on introduction of user fees to the patients.

Patient quality and WTP: In a Bangladesh study, patients were willing to pay more if their satisfaction with doctor patient relationship, drug availability and increased chances of recovery was high (Pavel, Chakrabarty, & Gow, 2015). In this study, there was no significant association between patient satisfaction and WTP. This could be possibly be due to the fact that the study assessed overall satisfaction and not individual factors of satisfaction such as patient doctor relationship and may be a basis of further investigation.

5.2.4 Preferred health care payment methods

The most commonly used health care payment methods in Kenya are cash (out of pocket) and/or health insurance through private health insurance, NHIF and/or employer through a line of credit with a facility or directly reimbursing costs of treatment. Through this study, we were able to elicit the preferred method of payment for the health services from the patients in the Nairobi and Kisumu clinic that would enable the clinic to make a decision on the preferred method to be used as discussed below. Overall cash was the preferred method of payment by 50% of the participants followed by NHIF (40%) and then private insurance (7%). The methods are discussed in detail below:

5.2.4.1 Cash/out of pocket payment

50% of the patients stated that they would use cash to pay for the services in the clinic if expected to pay. Majority also stated that their source of funds would be their salary, earnings or savings. Of interest is the fact that there were significant differences between Kisumu and Nairobi; Kisumu only 38% compared to Nairobi's 57% preferred to use cash with more patients in Kisumu preferring to use NHIF. Upon further analysis, it was established that the source of cash for those in Kisumu was predominantly earnings from business (39%) followed by family or friend (30%). Most of the business is informal business and may have erratic returns and funds from family and friends cannot also be relied on. This may be an indication of why fewer Kisumu participants preferred to use cash as compared to Nairobi. In Nairobi, most (34%) of those paying by cash were employed, which is a more stable source that may be higher than informal business, possibly explaining why more of them would have preferred cash as the preferred payment method.

Even though the patients have stated that they would pay, this payment is considered as user fees which have been found to affect adherence to long term expensive treatment and reduce access for the poorest and most vulnerable (James et al., 2006). User fees refer to a financing mechanism where payment is made at the point of service at each visit to a health service provider and can include any combination of drug costs, supply and medical material costs, entrance fees or consultation fees (James et al., 2006).

Removal of user fees has been found to result in an immediate increase on utilization of services with the reverse also being true (Lagarde & Palmer, 2008). Use of savings to pay user fees affects the resources available for investment at the individual level and significantly affects economic growth (Bollinger, Stover, & Nalo, 1999)(Nabyonga et al., 2005). User fees are likely to limit progress in attaining universal health coverage (UHC) because of the possibility of creating financial hardships. UHC is defined as access to needed, good quality health services - promotion, prevention, treatment and rehabilitation - for everyone, without the risk of financial hardship as a result of having to pay to access these services (Musango, Elovainio, Nabyonga, & Toure, 2013). 21% of patient stated that they would pay utilising their savings and based on evidence this would deplete their savings and tip them into poverty which is an unfavourable outcome that should not be encouraged in the long term.

On the other hand, user fees can also have a benefit in health service delivery. In many countries, once user fees were abolished in public sector, the wealthier individuals preferred to pay for services in private facilities e.g. in Uganda, a dual system emerged where wealthier population groups switched to the private sector once user fees were abolished freeing the public facilities to address the needs of the poor (Nabyonga, Mugisha, Kirunga, Macq, & Criel, 2011). Private facilities e.g. the NGO run clinics can learn from social enterprise examples that have successfully used resources from the wealthy to subsidize the payments for the poor such as the Aravind eye hospital in India that runs separate hospitals for the rich and poor with different payment rates (Aravind, 2011). The LVCT Health clinics can therefore consider establishing a system of premium services for their wealthier clients and use the resources to

subsidize costs for the very poor who may not even afford the minimum amount required.

5.2.4.2 Health insurance

Presence of health insurance has been shown to improve outcomes for HIV patients by protecting against premature death (Bhattacharya, Goldman, & Sood, 2003; Goldman et al., 2001). Health insurance has been shown to reduce financial hardships in case of catastrophic expenditure brought about by various chronic illnesses (Scheil-adlung et al., n.d.). As countries aim to achieve universal health care for all in line with the sustainable development goals (SDGs), different financing sources have been used to cover different population groups including social health insurance financed through tax or mandatory contributions. However, countries have found it difficult to expand coverage of the informal sector through contributory schemes because of ineffective mechanisms to enforce contribution payment (Tangcharoensathien, Mills, & Palu, 2015). This has been noted as a challenge in expanding NHIF which, due to its coverage of HIV services, would be an ideal mechanism to pay for HIV services in both public and private settings. The clinics, with 60% already enrolled in NHIF and with a ready catchment population, would be ideal settings for encouraging enrolment of more clients into the NHIF scheme, a process that is likely to be mutually beneficial.

Health insurance or financial risk protection is proposed as one of the mechanisms for reducing the potentially high catastrophic expenditure PLHIV may face if charged for services (Onwujekwe et al., 2016). Insurance covers for HIV should not have very high utilization restrictions and co-payments as these may discourage enrolment and utilization of insurance (for private insurance) resulting in interrupted medication adherence, drug resistance and increased risk of viral transmission as has been seen with other chronic diseases in various countries (Zamani-Hank, 2015).

The findings of the study demonstrated that 40% of the patients would be unwilling to use insurance to pay for HIV services, 77% of these due to fear of disclosure to NHIF or their employer. This shows how stigma associated with HIV still remains a key obstacle to the uptake of HIV services. HIV stigma is higher among men than women; the percentage of men expressing accepting attitude to PLHIV increased from 27% in

2003 to 33% in 2009 while for women the percentage increased from 39.4% in 2003 to 47% in 2009 (National AIDS Control Council, 2014b). For insurance to be an effective method for financing HIV care, mechanisms need to be put in place to ensure that patients' confidentiality is maintained at all times by the insurer and health providers. There also needs to be communication to the public and patients enrolled in clinics about how their confidentiality is guaranteed even when insurance is used. This can be done in form of patient education, promotions and advertisements in local media, through employers and other channels of communication.

Overall, from this study, NHIF should be prioritized as the most appropriate health care payment method that would benefit both the patients and the clinic in the long run and should therefore be explored further with the patients and with NHIF in order to operationalize fully

.

5.3 Recommendations

This study has provided useful data that can form a basis for other HIV related WTP and health financing studies in Kenya. It can also contribute to the body of knowledge for willingness to pay in Kenya in general. The recommendations are presented in two parts; i) recommendations for LVCT Health and ii) recommendations for policy makers in the country.

Recommendations for LVCT Health

The study findings have demonstrated that the patients enrolled in care are willing to pay for HIV services in the clinic which was the expectation of the staff and management. However, the amount they are willing to pay may not meet what the organization requires to meet its needs and the user fees may actually lock out some needy patients from accessing services. To address this the following are recommended

1. Introduce user fees (cash payment) at a subsidized rate – the subsidies can be obtained from donor funds if available. A waiver system can also be put in place to ensure the very poor are still able to access services. If this is not sustainable, these patients can be transitioned into public clinics to avoid service interruptions

2. The organization can introduce a tiered systems where the wealthy receive extra services such as avoiding queues, executive clinic and charge them at a premium that can be used to subsidize the costs for the other patients. The choice and range of service should be determined with input from potential beneficiaries to ensure good uptake
3. LVCT Health should explore accreditation with NHIF and private insurance providers for reimbursement of costs of care for their clients who are already enrolled in the clinic. This is the most sustainable option as health insurance has been shown to benefit both the providers and the insured to access quality health services without incurring financial hardships. To fully explore this option, LVCT should provide a broader range of services including other health needs for which the insurer can pay

   From the findings, some patients were unwilling to use health insurance because of fear of disclosing their HIV status to the insurer or employer. This finding should be presented to the insurers to enable them implement mechanisms that assure their beneficiaries of confidentiality.

Recommendations for policy makers

The study findings will be useful to inform the policy makers such as the National AIDS Control Council (NACC) which is working on developing strategies for increasing domestic financing for HIV care as this provides an evidence base that can be tapped into. Specific recommendations are:

1. NACC can use the findings to work with NHIF and private insurers to scale up coverage for HIV positive patients countrywide
2. The government can also use this study as a basis for wider research and consultations on willingness to pay in public health facilities across more counties to inform upcoming policy on domestic financing for HIV.
3. The findings that relate to stigma influencing use of health insurance provide a basis for public awareness campaigns on HIV, stigma and health insurance that can be conducted jointly between NACC and NHIF and support the country's push towards universal health coverage through NHIF as the social health insurance

5.4 Conclusions

Kenya has spent considerable resources combating HIV over the past decade with good progress in the number of people in care and on life saving ARVs. The HIV response in Kenya is predominantly donor funded and with increasing demands for long term HIV care and reducing donor funding globally the country has to identify other sustainable financing interventions.

The findings of this study demonstrate that from the patients' perspective, it is generally not acceptable to charge for HIV services if donor funds are available. This is mainly due to the chronic nature of the disease, the need for lifelong and expensive anti-retroviral treatment and the fact that most patients are poor. However, the study has also revealed that, if donor funding declines many patients would be willing to pay for the services in the LVCT NGO clinics but at less than Ksh 2000 every three months which is below the estimated price of up to Ksh 5000 per visit.

WTP was significantly associated with income level, having paid for HIV services before and presence of medical insurance which all suggest ability to pay. With this in mind, any plans to introduce user fees should consider the poor who are vulnerable and the fact that user fees have been shown to interrupt adherence resulting in poor outcomes including a higher mortality rate.

To counter the negative effects of user fee and attain sustainability for the provision of HIV services, health insurance is proposed as a suitable alternative that has been identified as a global priority towards attaining the universal health coverage. For the insurance to be successful, measures addressing confidentiality need to be put in place by insurers and health providers and clearly communicated to the patients to enhance the use of insurance for HIV services that will be sustainable in the long run.

5.5 Areas for further research

There is need to conduct further research on financing for HIV services using NHIF and private insurance and how they can be optimized to pay for the services. Studies can also assess longitudinal follow up studies on patients who pay for services through user fees to assess their health outcomes including adherence and other challenges of

accessing care. The WTP studies should be carried out in public health facilities across the different counties to map how prepared the country is for alternative financing mechanism for HIV.

List of References

Akin, J., Birdsall, N., & de Ferranti, D. (1987). *Financing health services in developing countries: an agenda for reform 1987 World Bank Policy Study.* Washington, DC: The World Bank.

Antolec, S., & Figueroa, A. (2014). No Longer Uninsured: Residents of Illinois with a Preexisting Condition of AIDS, HIV, Mental Health or Substance Use Are Now Covered Under the Affordable Care Act. *Public Interest Law Reporter*, *20*(1).

Aravind, S. (2011). Driving down the cost of high-quality care: Lessons from the Aravind Eye Care System. *Health International*, 18–27.

AVERT. (2016, August 11). History of HIV and AIDS Overview. http://doi.org/10.1056/NEJMoa1105243

Batavia, A. S., Balaji, K., Houle, E., Parisaboina, S., Ganesh, A. K., Mayer, K. H., & Solomon, S. (2010). Adherence to Antiretroviral Therapy in Patients Participating in a Graduated Cost Recovery Program at an HIV Care Center in South India. *AIDS and Behavior*, *14*(4), 794–798. http://doi.org/10.1007/s10461-009-9663-6

Bateman, I. J., Langford, I. H., Willis, K. G., Turner, R. K., & Garrod, G. D. (1993). "The Impacts of Changing Willingness to Pay Question Format in Contingent Valuation Studies: An Analysis of Open-Ended, Iterative Bidding and Dichotomous Choice Formats" in Global Environmental Change Working Paper 93-05, CentrTe for Social and Economic R, (March 2016), 53.

Bell, J., Masaoka, J., & Zimmerman, S. (2010). *Nonprofit Sustainability: Making Strategic Decisions for Financial Viability*. John Wiley & Sons.

Beogo, I., Huang, N., Gagnon, M.-P., & Amendah, D. D. (2016). Out-of-pocket expenditure and its determinants in the context of private healthcare sector expansion in sub-Saharan Africa urban cities: evidence from household survey in Ouagadougou, Burkina Faso. *BMC Research Notes*, *9*(1), 34. http://doi.org/10.1186/s13104-016-1846-4

Bhattacharya, J., Goldman, D., & Sood, N. (2003). The link between public and private insurance and HIV-related mortality. *Journal of Health Economics*, *22*(6), 1105–1122. http://doi.org/10.1016/j.jhealeco.2003.07.001

Bollinger, L., Stover, J., & Nalo, D. (1999). The Economic Impact of AIDS in Kenya.

Buigut, S., Ettarh, R., & Amendah, D. D. (2015). Catastrophic health expenditure and its determinants in Kenya slum communities. *International Journal for Equity in Health*, *14*(1). http://doi.org/10.1186/s12939-015-0168-9

Carrin, G., James, C., Adelhardt, M., Doetinchem, O., Eriki, P., Hassan, M., … Zipperer, M. (2008). Health financing reform in Kenya – assessing the social health insurance proposal. *South African Medical Journal*, *97*(2), 130–135.

Clarke, P. (2011). Using revealed preference methods to value healthcare: The travel cost approach. In *Applied methods of cost-benefit analysis in healthcare.* (pp. 161–182). New York: Oxford University Press Inc. Retrieved from https://books.google.co.ke/books?hl=en&lr=&id=gA5VBAAAQBAJ&oi=fnd&pg=PR9&dq=Clark,+P.+(2010).+Using+revealed+preference+methods+to+value+healthcare&ots=nFUWdBmfE4&sig=Dmep7CnfZoYqZ-7l8MKLt4PYb9s&redir_esc=y#v=onepage&q&f=false

Corso, P. S., Hammitt, J. K., Graham, J. D., Dicker, R. C., & Goldie, S. J. (2002). Assessing preferences for prevention versus treatment using willingness to pay. *Medical Decision Making : An International Journal of the Society for Medical Decision Making*, *22*(5 Suppl), S92–101. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12369235

Diener, A., O'Brien, B., & Gafni, A. (1998). Health care contingent valuation studies: a review and classification of the literature. *Health Economics*, *7*(4), 313–26. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/9683092

Dixon, S., McDonald, S., & Roberts, J. (2002). The impact of HIV and AIDS on Africa's economic development. *BMJ (Clinical Research Ed.)*, *324*(7331), 232–4. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/11809650

Dror, D. M., Radermacher, R., & Koren, R. (2007). Willingness to pay for health insurance among rural and poor persons: Field evidence from seven micro health insurance units in India. *Health Policy*, *82*(1), 12–27. http://doi.org/10.1016/j.healthpol.2006.07.011

Forsythe, S., Arthur, G., Ngatia, G., Mutemi, R., Odhiambo, J., & Gilks, C. (2002). Assessing the cost and willingness to pay for voluntary HIV counselling and testing in Kenya. *Health Policy and Planning*, *17*(2), 187–95. http://doi.org/10.1093/heapol/17.2.187

Frenk, J., Gómez-Dantés, O., Roberts, M., Hsiao, W., Berman, P., Reich, M., … Ignatieff, M. (2009). Ideas and ideals: ethical basis of health reform in Mexico. *The Lancet*, *373*(9673), 1406–1408. http://doi.org/10.1016/S0140-6736(09)60800-X

Galárraga, O., Wirtz, V. J., Figueroa-Lara, A., Santa-Ana-Tellez, Y., Coulibaly, I., Viisainen, K., … Korenromp, E. L. (2011). Unit costs for delivery of antiretroviral treatment and prevention of mother-to-child transmission of HIV: a systematic review for low- and middle-income countries. *PharmacoEconomics*, *29*(7), 579–599. http://doi.org/10.2165/11586120-000000000-00000

Gertler, P., & Gaag, J. van der. (1990). *The willingness to pay for medical care : evidence from two developing countries*. Published for the World Bank [by] Johns Hopkins University Press.

Gilks, C. F., Crowley, S., Ekpini, R., Gove, S., Perriens, J., Souteyrand, Y., … De Cock, K. (2006). The WHO public-health approach to antiretroviral treatment against HIV in resource-limited settings. *Lancet*, *368*(9534), 505–510. http://doi.org/10.1016/S0140-6736(06)69158-7

Gilson, L., & McIntyre, D. (2005). Removing user fees for primary care in Africa: the need for careful action. *BMJ (Clinical Research Ed.)*, *331*(7519), 762–5. http://doi.org/10.1136/bmj.331.7519.762

Goldman, D. P., Bhattacharya, J., McCaffrey, D. F., Duan, N., Leibowitz, A. A., Joyce, G. F., & Morton, S. C. (2001). Effect of Insurance on Mortality in an HIV-Positive Population in Care. *Journal of the American Statistical Association*, *96*(455), 883–894. http://doi.org/10.1198/016214501753208582

Hammitt, J. K. (2002). QALYs Versus WTP. *Risk Analysis*, *22*(5), 985–1001. http://doi.org/10.1111/1539-6924.00265

Holtgrave, D. (1998). *Handbook of Economic Evaluation of HIV Prevention Programs*. Boston, MA: Springer US. http://doi.org/10.1007/978-1-4899-1878-9

ILO Programme on HIV/AIDS and the World of Work. (2005). HIV/AIDS and poverty:the

critical connection. Brief, October 2005.
James, C. D., Hanson, K., McPake, B., Balabanova, D., Gwatkin, D., Hopwood, I., … Xu, K. (2006). To retain or remove user fees? Reflections on the current debate in low-and middle-income. *Appl Health Econ Health Policy*, *5*(3), 137–53.
Jamison, D. T., Summers, L. H., Alleyne, G., Arrow, K. J., Berkley, S., Binagwaho, A., … Yamey, G. (2013). Global health 2035: a world converging within a generation. *The Lancet*, *382*(9908), 1898–1955. http://doi.org/10.1016/S0140-6736(13)62105-4
Katz, I. T., Bassett, I. V., & Wright, A. A. (2013). PEPFAR in Transition — Implications for HIV Care in South Africa. *New England Journal of Medicine*, *369*(15), 1385–1387. http://doi.org/10.1056/NEJMp1310982
Klose, T. (1999). The contingent valuation method in health care. *Health Policy (Amsterdam, Netherlands)*, *47*(2), 97–123. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/10538292
Knaul, F. M., Gonzalez-Pier, E., Gomez-Dantes, O., Garcia-Junco, D., Arreola-Ornelas, H., Barraza-Llorens, M., … Frenk, J. (2012). The quest for universal health coverage: Achieving social protection for all in Mexico. *The Lancet*, *380*(9849), 1259–1279. http://doi.org/10.1016/S0140-6736(12)61068-X
Lagarde, M., & Palmer, N. (2008). The impact of user fees on health service utilization in low- and middle-income countries: how strong is the evidence? *Bulletin of the World Health Organization*, *86*(11), 839–848. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/19030689
LaPelle, N. R., Zapka, J., & Ockene, J. K. (2006). Sustainability of Public Health Programs: The Example of Tobacco Treatment Services in Massachusetts. *American Journal of Public Health*, *96*(8), 1363–1369. http://doi.org/10.2105/AJPH.2005.067124
Madore, O. (1993, July). Healthcare Financing User Participation. Madore Economics Division, Ontario, Canada.
Maharaj, P., & Cleland, J. (2005). Women on top: the relative influence of wives and husbands on contraceptive use in KwaZulu-Natal. *Women & Health*, *41*(2), 31–41. http://doi.org/10.1300/J013v41n02_03
McAllister, J., Beardsworth, G., Lavie, E., MacRae, K., & Carr, A. (2013). Financial stress is associated with reduced treatment adherence in HIV-infected adults in a resource-rich setting. *HIV Medicine*, *14*(2), 120–124. http://doi.org/10.1111/j.1468-1293.2012.01034.x
Menzies, N. A., Berruti, A. A., Berzon, R., Filler, S., Ferris, R., Ellerbrock, T. V., & Blandford, J. M. (2011). The cost of providing comprehensive HIV treatment in PEPFAR-supported programs. *AIDS (London, England)*, *25*(14), 1753–1760. http://doi.org/10.1097/QAD.0b013e3283463eec
Menzies, N. A., Berruti, A. A., & Blandford, J. M. (2012). The Determinants of HIV Treatment Costs in Resource Limited Settings. *PLoS ONE*, *7*(11). http://doi.org/10.1371/journal.pone.0048726
Ministry of Health. (2013). Kenya Health Policy, 2012 - 2030.
Ministry of Health. (2014). Kenya HIV Estimates 2014, Nairobi, Kenya.
Ministry of Health. (2015). Kenya National Health Accounts 2012/13. Nairobi.
Muko, K. N., Ngwa, V. C., Chigang, L., Ngwa, I. G., Meiburg, A., & Shu, E. N. (2004). Willingness to pay for treatment with highly active antiretroviral (HAART) drugs: a

rural case study in Cameroon. *SAHARA-J: Journal of Social Aspects of HIV/AIDS*, *1*(2), 107–113. http://doi.org/10.1080/17290376.2004.9724833

Musango, L., Elovainio, R., Nabyonga, J., & Toure, B. (2013). State of Health Financing in the African Region, (January), 1–48. Retrieved from http://www.aho.afro.who.int/en/ahm/issue/16/reports/state-health-financing-african-region

Nabyonga, J., Desmet, M., Karamagi, H., Kadama, P. Y., Omaswa, F. G., & Walker, O. (2005). Abolition of cost-sharing is pro-poor: evidence from Uganda. *Health Policy and Planning*, *20*(2), 100–8. http://doi.org/10.1093/heapol/czi012

Nabyonga Orem, J., Mugisha, F., Kirunga, C., Macq, J., & Criel, B. (2011). Abolition of user fees: the Uganda paradox. *Health Policy and Planning*, *26 Suppl 2*, ii41–51. http://doi.org/10.1093/heapol/czr065

National AIDS Control Council. (2014a). Final Report for End Term Review of Kenya National AIDS Strategic Plan III, 2009/10-2012/13.

National AIDS Control Council. (2014b). *Kenya AIDS Response Progress Report 2014 Progress towards Zero*.

National AIDS Control Council. (2014c). Kenya Aids Strategic Framework 2014/2015 – 2018/2019.

National Hospital Insurance Fund. (2015). *NHIF benefit package Explanation of the benefit package for the National Scheme*. Retrieved from http://www.nhif.or.ke/healthinsurance/NHIF_Benefits_Package.pdf

Nguyen, L. H., Tran, B. X., Nguyen, N. P., Phan, H. T. T., Bui, T. T., & Latkin, C. A. (2016). Mobilization for HIV Voluntary Counseling and Testing Services in Vietnam: Clients' Risk Behaviors, Attitudes and Willingness to Pay. *AIDS and Behavior*, *20*(4), 848–858. http://doi.org/10.1007/s10461-015-1188-6

Noor Aizuddin, A., Sulong, S., & Aljunid, S. (2012). Factors influencing willingness to pay for healthcare. *BMC Public Health*, *12*(Suppl 2), A37. http://doi.org/10.1186/1471-2458-12-S2-A37

Onwujekwe, O. E., Ibe, O., Torpey, K., Dada, S., Uzochukwu, B., & Sanwo, O. (2016). Examining geographic and socio-economic differences in outpatient and inpatient consumer expenditures for treating HIV/AIDS in Nigeria. *Journal of the International AIDS Society*, *19*(1), 20588. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/26838093

Onwujekwe, O., Uzochukwu, B., Shu, E., Ibeh, C., & Okonkwo, P. (2004). Is combination therapy for malaria based on user-fees worthwhile and equitable to consumers? Assessment of costs and willingness to pay in Southeast Nigeria. *Acta Tropica*, *91*(2), 101–15. http://doi.org/10.1016/j.actatropica.2004.03.005

Pavel, M. S., Chakrabarty, S., & Gow, J. (2015). Assessing willingness to pay for health care quality improvements. *BMC Health Services Research*, *15*, 43. http://doi.org/10.1186/s12913-015-0678-6

PEPFAR. (2013). FY 2014 Sustainability Planning Guidance Document. Advancing Country Ownership in PEPFAR III.

Pokhrel, S., Hidayat, B., Flessa, S., & Sauerborn, R. (2005). Modelling the effectiveness of financing policies to address underutilization of children's health services in Nepal. *Bulletin of the World Health Organization*, *83*(5), 338–344.

http://doi.org/10.1590/S0042-96862005000500009
Rao, P., Gabre-Kidan, T., Mubangizi, D. B., & Sulzbach, S. (2011). Leveraging the private health sector to enhance HIV service delivery in lower-income countries. *Journal of Acquired Immune Deficiency Syndromes (1999)*, *57 Suppl 2*, S116–119. http://doi.org/10.1097/QAI.0b013e31821ed719
Rina S., Rosminah, S. (2011). Willingness to pay and ability to pay for health care services at Zainoel Abidin public hospital Banda Aceh , Indonesia. In *The Annual International Conference Syiah Kuala University 2011* (Vol. 1, pp. 242–246). Banda Aceh, Indonesia.
Scheil-adlung, X., Glied, S., Stabile, M., Heller, P. S., Carrin, G., Mathauer, I., … Evans, D. B. (n.d.). Major Policy Challenges :
Scheirer, M. A., & Dearing, J. W. (2011). An agenda for research on the sustainability of Public Health Programs. *American Journal of Public Health*, *101*(11), 2059–2067. http://doi.org/10.2105/AJPH.2011.300193
Speizer, I. S., Story, W. T., & Singh, K. (2014). Factors associated with institutional delivery in Ghana: the role of decision-making autonomy and community norms. *BMC Pregnancy and Childbirth*, *14*, 398. http://doi.org/10.1186/s12884-014-0398-7
Sulzbach, S., De, S., & Wang, W. (2011). The private sector role in HIV/AIDS in the context of an expanded global response: expenditure trends in five sub-Saharan African countries. *Health Policy and Planning*, *26*(suppl 1), i72–i84. http://doi.org/10.1093/heapol/czr031
Tangcharoensathien, V., Mills, A., & Palu, T. (2015). Accelerating health equity: the key role of universal health coverage in the Sustainable Development Goals. *BMC Medicine*, *13*(1), 101. http://doi.org/10.1186/s12916-015-0342-3
The Global Fund. (2015). The Global Fund Resource Book for Applicants.
UNAIDS. (2015). UNAIDS Fact Sheet 2015.
Uzochukwu, B., Uguru, N., Ezeoke, U., Onwujekwe, O., & Sibeudu, T. (2011). Voluntary counseling and testing (VCT) for HIV/AIDS: A study of the knowledge, awareness and willingness to pay for VCT among students in tertiary institutions in Enugu State Nigeria. *Health Policy*, *99*(3), 277–284. http://doi.org/10.1016/j.healthpol.2010.11.007
Wandei, S., Nangami, M., & Egesa, O. (2016). Ability and willingness to pay for voluntary medical male circumcision: a cross-sectional survey in Kisumu County, Kenya. *AIDS Care*, *28*(4), 471–474. http://doi.org/10.1080/09540121.2015.1114998
Wang, W., Sulzbach, S., & De, S. (2011). Utilization of HIV-related services from the private health sector: A multi-country analysis. *Social Science & Medicine (1982)*, *72*(2), 216–223. http://doi.org/10.1016/j.socscimed.2010.11.011
World Health Organization. (1999). *World Health Organisation (WHO) (1999): Making a difference*.
Yasunaga, H., Ide, H., Imamura, T., & Ohe, K. (2006). Willingness to pay for health care services in common cold, retinal detachment, and myocardiac infarction: an internet survey in Japan. *BMC Health Services Research*, *6*(1), 12. http://doi.org/10.1186/1472-6963-6-12
Yates, R. (2009). Universal health care and the removal of user fees. *The Lancet*, *373*(9680), 2078–2081. http://doi.org/10.1016/S0140-6736(09)60258-0
Zamani-Hank, Y. (2015). The Affordable Care Act and the Burden of High Cost Sharing and

Utilization Management Restrictions on Access to HIV Medications for People Living with HIV/AIDS. *Population Health Management*.
http://doi.org/10.1089/pop.2015.0076

Appendices

Appendix A: Logistic regression results of predictors of WTP

Appendix table 1: Logistic regression results for predictors of WTP

How much is the highest amount you would be willing to pay? [a]		B	Std. Error	Wald	Df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
Not more than Ksh 2,000	Intercept	7.278	2.813	6.693	1	0.01			
	[Q10_Acceptable=1]	-1.713	0.89	3.709	1	0.054	0.18	0.032	1.031
	[Q10_Acceptable=2]	0[b]	.	.	0	.	.	.	.
	[Q7_Income=1]	-1.064	1.187	0.803	1	0.37	0.345	0.034	3.535
	[Q7_Income=2]	0.347	1.518	0.052	1	0.819	1.415	0.072	27.737
	[Q7_Income=3]	-3.773	1.524	6.127	1	0.013	0.023	0.001	0.456
	[Q7_Income=4]	21487.3	0	.	1	.	.[c]	.	.
	[Q7_Income=5]	0[b]	.	.	0	.	.	.	.
	[Q5_Education=1]	-0.571	3.388	0.028	1	0.866	0.565	0.001	432.251
	[Q5_Education=2]	-0.791	2.224	0.127	1	0.722	0.453	0.006	35.456
	[Q5_Education=3]	-1.639	1.808	0.822	1	0.365	0.194	0.006	6.716
	[Q5_Education=4]	0.952	1.83	0.27	1	0.603	2.59	0.072	93.486
	[Q5_Education=5]	-1.851	1.709	1.172	1	0.279	0.157	0.006	4.478
	[Q5_Education=6]	1.954	1.979	0.975	1	0.323	7.054	0.146	340.939
	[Q5_Education=7]	0[b]	.	.	0	.	.	.	.
	[Location=1]	-1.624	1.068	2.311	1	0.128	0.197	0.024	1.599
	[Location=2]	0[b]	.	.	0	.	.	.	.
	[Q1_Age=1]	2.031	2.559	0.63	1	0.427	7.625	0.051	1150.261
	[Q1_Age=2]	1.497	1.356	1.218	1	0.27	4.466	0.313	63.722
	[Q1_Age=3]	3.267	1.444	5.117	1	0.024	26.243	1.547	445.179
	[Q1_Age=4]	3.067	1.587	3.736	1	0.053	21.474	0.958	481.329
	[Q1_Age=5]	0[b]	.	.	0	.	.	.	.
	[Q2_Sex=1]	-2.145	0.916	5.486	1	0.019	0.117	0.019	0.705
	[Q2_Sex=2]	0[b]	.	.	0	.	.	.	.
	[Q6_Occupation=1]	0.418	3.506	0.014	1	0.905	1.518	0.002	1464.485
	[Q6_Occupation=2]	1.378	2.035	0.458	1	0.498	3.966	0.073	214.148
	[Q6_Occupation=3]	-0.816	1.804	0.205	1	0.651	0.442	0.013	15.182
	[Q6_Occupation=4]	0[b]	.	.	0	.	.	.	.
	[Q9.a_Paid=1]	-3.166	1.055	8.998	1	0.003	0.042	0.005	0.334
	[Q9.a_Paid=2]	0[b]	.	.	0	.	.	.	.
	[Q24.a_NHIF=1]	-0.551	1.154	0.228	1	0.633	0.576	0.06	5.529
	[Q24.a_NHIF=2]	0[b]	.	.	0	.	.	.	.
	[Q24.b_Insurance=1]	-3.891	1.131	11.835	1	0.001	0.02	0.002	0.187

	[Q24.b_Insurance=2]	0[b]	.	.	0	.	.	.	.
Ksh 2,001-5,000	Intercept	5.332	2.961	3.244	1	0.072			
	[Q10_Acceptable=1]	-0.634	0.93	0.465	1	0.495	0.531	0.086	3.282
	[Q10_Acceptable=2]	0[b]	.	.	0	.	.	.	.
	[Q7_Income=1]	-0.545	1.325	0.169	1	0.681	0.58	0.043	7.787
	[Q7_Income=2]	2.834	1.608	3.107	1	0.078	17.006	0.728	397.122
	[Q7_Income=3]	-0.695	1.563	0.198	1	0.657	0.499	0.023	10.686
	[Q7_Income=4]	-17.542	0	.	1	.	2.41E-08	2.41E-08	2.41E-08
	[Q7_Income=5]	0[b]	.	.	0	.	.	.	.
	[Q5_Education=1]	-1.64	3.812	0.185	1	0.667	0.194	0	340.774
	[Q5_Education=2]	-2.083	2.362	0.777	1	0.378	0.125	0.001	12.776
	[Q5_Education=3]	-2.307	1.891	1.488	1	0.222	0.1	0.002	4.052
	[Q5_Education=4]	0.613	1.846	0.11	1	0.74	1.847	0.05	68.825
	[Q5_Education=5]	-2.063	1.747	1.396	1	0.237	0.127	0.004	3.896
	[Q5_Education=6]	2.085	1.974	1.115	1	0.291	8.045	0.168	385.475
	[Q5_Education=7]	0[b]	.	.	0	.	.	.	.
	[Location=1]	-1.255	1.125	1.243	1	0.265	0.285	0.031	2.588
	[Location=2]	0[b]	.	.	0	.	.	.	.
	[Q1_Age=1]	1.245	2.744	0.206	1	0.65	3.473	0.016	751.718
	[Q1_Age=2]	1.146	1.45	0.624	1	0.429	3.144	0.183	53.882
	[Q1_Age=3]	2.296	1.539	2.227	1	0.136	9.938	0.487	202.811
	[Q1_Age=4]	1.863	1.675	1.237	1	0.266	6.444	0.242	171.817
	[Q1_Age=5]	0[b]	.	.	0	.	.	.	.
	[Q2_Sex=1]	-1.975	0.971	4.134	1	0.042	0.139	0.021	0.931
	[Q2_Sex=2]	0[b]	.	.	0	.	.	.	.
	[Q6_Occupation=1]	0.012	3.684	0	1	0.997	1.012	0.001	1383.474
	[Q6_Occupation=2]	1.443	2.118	0.465	1	0.496	4.235	0.067	268.842
	[Q6_Occupation=3]	-0.953	1.907	0.25	1	0.617	0.385	0.009	16.173
	[Q6_Occupation=4]	0[b]	.	.	0	.	.	.	.
	[Q9.a_Paid=1]	-2.896	1.131	6.56	1	0.01	0.055	0.006	0.507
	[Q9.a_Paid=2]	0[b]	.	.	0	.	.	.	.
	[Q24.a_NHIF=1]	-0.359	1.242	0.084	1	0.772	0.698	0.061	7.961
	[Q24.a_NHIF=2]	0[b]	.	.	0	.	.	.	.
	[Q24.b_Insurance=1]	-4.35	1.209	12.943	1	0	0.013	0.001	0.138
	[Q24.b_Insurance=2]	0[b]	.	.	0	.	.	.	.
Ksh 5,001-10,000	Intercept	5.276	3.505	2.266	1	0.132			
	[Q10_Acceptable=1]	-2.702	1.544	3.064	1	0.08	0.067	0.003	1.382
	[Q10_Acceptable=2]	0[b]	.	.	0	.	.	.	.
	[Q7_Income=1]	-1.154	1.543	0.559	1	0.455	0.315	0.015	6.489

[Q7_Income=2]	2.609	1.896	1.893	1	0.169	13.587	0.33	558.925
[Q7_Income=3]	-2.957	2.792	1.121	1	0.29	0.052	0	12.381
[Q7_Income=4]	3.517	0	.	1	.	33.673	33.673	33.673
[Q7_Income=5]	0[b]	.	.	0	.	.	.	.
[Q5_Education=1]	-2.292	4.281	0.287	1	0.592	0.101	2.29E-05	445.438
[Q5_Education=2]	-1.854	2.915	0.405	1	0.525	0.157	0.001	47.378
[Q5_Education=3]	-1.977	2.414	0.671	1	0.413	0.138	0.001	15.703
[Q5_Education=4]	2.078	2.516	0.682	1	0.409	7.988	0.058	1107.509
[Q5_Education=5]	-1.764	2.346	0.565	1	0.452	0.171	0.002	17.017
[Q5_Education=6]	-0.213	3.174	0.005	1	0.946	0.808	0.002	406.846
[Q5_Education=7]	0[b]	.	.	0	.	.	.	.
[Location=1]	-1.197	1.322	0.82	1	0.365	0.302	0.023	4.034
[Location=2]	0[b]	.	.	0	.	.	.	.
[Q1_Age=1]	2.978	2.706	1.211	1	0.271	19.646	0.098	3947.975
[Q1_Age=2]	-1.122	1.779	0.397	1	0.528	0.326	0.01	10.649
[Q1_Age=3]	-0.27	1.879	0.021	1	0.886	0.763	0.019	30.382
[Q1_Age=4]	-0.38	2.177	0.03	1	0.862	0.684	0.01	48.775
[Q1_Age=5]	0[b]	.	.	0	.	.	.	.
[Q2_Sex=1]	-1.831	1.251	2.143	1	0.143	0.16	0.014	1.86
[Q2_Sex=2]	0[b]	.	.	0	.	.	.	.
[Q6_Occupation=1]	-2.724	4.262	0.408	1	0.523	0.066	1.55E-05	278.733
[Q6_Occupation=2]	-0.014	2.359	0	1	0.995	0.986	0.01	100.322
[Q6_Occupation=3]	-0.163	2.046	0.006	1	0.936	0.85	0.015	46.846
[Q6_Occupation=4]	0[b]	.	.	0	.	.	.	.
[Q9.a_Paid=1]	-3.747	1.89	3.929	1	0.047	0.024	0.001	0.959
[Q9.a_Paid=2]	0[b]	.	.	0	.	.	.	.
[Q24.a_NHIF=1]	0.445	1.403	0.1	1	0.751	1.56	0.1	24.387
[Q24.a_NHIF=2]	0[b]	.	.	0	.	.	.	.
[Q24.b_Insurance=1]	-2.918	1.397	4.36	1	0.037	0.054	0.003	0.836
[Q24.b_Insurance=2]	0[b]	.	.	0	.	.	.	.

Appendix B: Patient Questionnaire

Patient questionnaire

Study title: Assessing the acceptability and willingness to pay for services among patients at LVCT health HIV clinics

Date: _____ **Questionnaire code _____**

Site _____

A. Patient demographics

1. **Age: In which age bracket do you fall?**
   - **a)** 18-24 Years ☐
   - **b)** 25-34 years ☐
   - **c)** 35-44 years ☐
   - **d)** 45-54 years ☐
   - **e)** 55yrs and abov ☐

2. **Sex:** Female ☐ Male ☐
3. Nationality……..
4. Residence (county or country if currently not Kenya) …….
5. **Education:** What is the highest degree or level of school you have completed? No schooling completed ☐ Primary school completed ☐
   High school completed ☐ Certificate ☐
   Diploma ☐ Bachelor's degree ☐
   Postgraduate degree ☐

6. **Occupation……**
   a) Student ☐
   b) Employed ☐
   c) Self employed ☐
   d) Unemployed ☐

7. **Income Level**: in what range is your current income in Kenyan Shillings?
   a) Under 20,000 ☐
   b) 20,000 – 49,999 ☐
   c) 50,000-100,000 ☐
   d) Over 100,000 ☐
   e) Would rather not say ☐

B. <u>Determining the acceptability of payment for HIV services among clinic patients</u>.

8. How long have you been accessing services at the LVCT Health clinic?
   a. <1 year…… ☐
   b. 1-3 years ……. ☐
   c. 3-5 years ……. ☐
   d. >5 years …….. ☐

9. Have you ever (prior to LVCT Health clinic) paid for HIV services?

   Yes……. ☐ No …… ☐

   If yes, where from?

   e. Private facility (hospital/clinic)…… ☐
   f. Private doctor…….. ☐
   g. Government facility…….. ☐
   h. NGO/ faith based clinic…….. ☐
   i. Don't know…….. ☐

10. In your opinion is it acceptable for HIV positive patients to pay for HIV care services?
    Yes ☐ No ☐

11. If your answer is yes to number10 above, please explain

    ……
    ……
    ……

12. If your answer is no to number10, please explain
    ……
    ……
    ……

13. If you were informed that this clinic is shutting down due to lack of donor funding, would you find it acceptable to pay for the HIV services?
    Yes ☐ No ☐

14. Where would you seek alternative services if the clinic shut down?

    j. Government facility …… ☐
    k. Private doctor…… ☐
    l. Private facility …… ☐
    m. NGO/faith based clinic…… ☐
    n. Don't know…… ☐

C. <u>Assessing willingness to pay for HIV care and treatment services among the patients</u>

15. In light of the reduction in donor funding, would you be willing to pay for services in LVCT Health clinic if asked to do so?
    Yes…… ☐ No…… ☐

16. If you were informed that the average cost you would have to pay for HIV services in Kenyan Shillings per visit (after every 3 months) was as shown below, how much is the highest amount you would be willing to pay?
(Note that this would refer to the cost of the comprehensive services - consultation, counselling, lab tests and ARVs and other diseases and the higher you pay the more the services you are likely to receive)

a) Not more than Ksh 2,000 ☐
b) Ksh 2,001-5,000 ☐
c) Ksh 5,001-10,000 ☐
d) Ksh 10,001 – 20,000 ☐
e) Above Ksh 20,000 ☐

17. Would you be willing to pay to access other medical services e.g. for chronic diseases like diabetes from LVCT Health clinic?
Yes …. ☐ No…. ☐

18. If yes, how much would you be willing to pay per visit for those services?

i) Not more than Ksh 2,000 ☐
ii) Ksh 2,001-5,000 ☐
iii) Ksh 5,001-10,000 ☐
iv) Ksh 10,001 – 20,000 ☐
v) Above Ksh 20,000 ☐

D. <u>Assessing factors that influence willingness to pay for HIV services</u>

19. What factors would influence your decision to pay for HIV services in the LVCT Health clinic?

o. Privacy/discreetness…… ☐
p. Confidentiality (information not shared with public)…… ☐
q. Perceived quality of care…….. ☐
r. Range of services (lab, pharmacy, counselling)…… ☐
s. Convenience…….. ☐
t. Staff attitude …… ☐
u. Other, please specify
……
……
……

20. On a scale of 1 to 5 (1 being the lowest and 5 being the highest) how would you rate the quality of care in the LVCT Health clinic?

1. Poor ☐ 2.Fair ☐ 3. Good ☐ 4. Very good ☐ 5. Excellent ☐

21. Would you still be willing to pay for services at the LVCT health clinic if your income declines/lose a job?
Yes ☐ No ☐

If yes, how would you finance it?

……

……

E. <u>Assessing health care payment methods for services that could be used in the clinic</u>

22. Which method would you prefer to pay for services at the clinic?
    v. Cash ☐
    w. Private insurance ☐
    x. NHIF ☐
    y. Employer ☐
    z. Other ☐
    specify……

……

.

23. If cash, what would be your source of funds to pay for the services?
    aa. Salary/Wages, ☐
    bb. Earnings from business ☐
    cc. Savings ☐
    dd. Family or friends, ☐
    ee. Other, ☐
    specify……

……

.

24. Presence of medical insurance,
    a) Are you enrolled in NHIF? Yes ☐ No ☐
    b) Do you have private medical insurance? Yes ☐ No ☐
    c) If yes, is it inpatient or outpatient or both?
    Inpatient ☐ Outpatient ☐ Both ☐

25. Would you be willing to use your health insurance to pay for HIV services in this clinic?
    Yes ☐ No ☐

    If no, why not?
    a) I have not /do not want to disclose my HIV status to my insurance company ☐
    b) I do not want to my employer to find out my status ☐
    c) I do not want to exhaust my medical cover ☐
    d) Other, ☐
    Please specify ……

26. Are there any final comments or recommendations for the future if HIV services were to be charged fully?

……

……

……

……

…….

Thank you for your time.

Appendix C: Participant Informed Consent Form

Version(2) 02.03.2016

Dear Participant,

Dr Lilian Otiso is conducting a study titled: '**Assessing the willingness to pay for services among patients at LVCT health HIV clinics'**. The study is being conducted in partial fulfilment of the requirements of the degree of MBA in Health care management at Strathmore University Business School.

The study is aimed at finding out how much patients would be willing to pay for HIV services in the unlikely event that the funding from donors is withdrawn. The study will be conducted in the two LVCT Health clinics in Nairobi and Kisumu. The Nairobi clinic has recently started providing select services at a highly subsidized fee that does not fully cover the cost of services offered. The study aims to find out the patients' perspectives on charging for services in the future.

The main objective of this study is: To assess the willingness to pay for HIV care and treatment services and factors that influence it among patients at LVCT Health clinics

Specific objectives

1. To determine the acceptability to pay for HIV services among clinic patients.
2. To establish the willingness to pay for HIV care and treatment services among the patients
3. To assess factors that influence willingness to pay for HIV services
4. To identify health care payment methods for services that patients would use to pay for health services in the clinic

Please note that you will not directly benefit from the study but the results will be used by LVCT Health to inform program implementation that will benefit all patients in the clinics.

You have been selected to participate in this study because you are 18 years old and above and you have been attending the LVCT Health clinic for over 6 months. There will be 390 volunteers participating in this study. We would like to request you to fill in a questionnaire that will take you approximately 20 minutes to complete. The research assistant is available to assist you to fill the form if you require assistance. You will not be exposed to any risks whilst participating in this study. However should you be

uncomfortable as a result of the questions asked during this study, kindly let the research assistant know in order to assist you. You can also be allowed to excuse yourself.

Please note that participation in this study is ***voluntary*** and you can choose to stop or withdraw participation at any point and this will not be held against you and will not interfere with your access to services. Your information will not be shared with anyone not directly involved in the research. All your responses will be kept confidential and no part of the questionnaire will be linked to you at any time. If the results of the study are published, all the participants' identity will remain confidential.

In case of any questions or concerns regarding the study and the rights of participants please contact either of the following:

Dr Lilian Otiso, Study Principle Investigator, mobile 0722293139, lotiso@lvcthealth.org

Dr Lina Digolo, Head of Research, mobile 0722788583, ldigolo@lvcthealth.org

Participant's Signature

If you are willing to take part, you will sign two copies of the consent, one is for you to keep and one will be kept in the study files

Participant's name …….

Participant's Signature…… Date……

If a participant is assisted to fill in the consent form, the witness should sign below

Witness name …….

Witness' Signature…… Date……

Interviewer Name …….

Signature ……Date ……..

Site name …….

Appendix D: Ethical Approval

Strathmore UNIVERSITY

REF: **SU-IRB 0027/15**

3rd March 2016

Dr. Lilian Otiso
P.O Box 19442-00202
Nairobi, Kenya.

Email: lnotiso@gmail.com

Dear **Dr. Otiso,**

REF: SU-IRB 0027/15 PROPOSAL "ASSESSING THE ACCEPTABILITY AND WILLINGNESS TO PAY FOR SERVICES AMONG PATIENTS AT LVCT HEALTH HIV CLINICS"

I make reference to your email dated 2nd March 2016, where you responded to concerns raised by the Strathmore University Institutional Review Board (SU-IRB).

The SU-IRB acknowledges receipt of the following resubmitted documents:

a) Study protocol version 2 dated 2nd March 2016
b) Consent form document version 2 dated 2nd March 2016
c) Revised questionnaire version 2 dated 2nd March 2016
d) Cover letter

The committee has reviewed your application and concluded that the issues raised have been adequately addressed.

The study has been granted **Approval** for implementation effective on **3rd Day of March 2016.** Please note that authorization to conduct this study will automatically expire on **2nd March 2017.**

If the study extends beyond the stated (one) year, you are required to seek an *Extension Approval* from the Ethics committee prior to its expiry. You are required to submit any proposed changes to this protocol to SU-IRB for review and approval prior to implementation of changes.

Thank you

Sincerely,

Amina Salim
Regulatory Affairs Fellow

STRATHMORE UNIVERSITY INSTITUTIONAL REVIEW BOARD APPROVED

Appendix E: Letter of Introduction

Strathmore Business School

Tuesday, 1st December 2015

To whom it may concern,

RE: FACILITATION OF RESEARCH – LILIAN OTISO

This is to introduce Dr. Lilian Otiso, admission number 83066 who is an MBA student at Strathmore Business School. As part of the SBS MBA Program, Dr. Otiso is expected to do applied research and to undertake a project. This is in partial fulfillment of the requirements of the Master of Business Administration in Healthcare Management. The outcome would be of immediate benefit to the organizations she is researching on. To this effect, she would like to request for appropriate data from your organization.

Dr. Otiso is undertaking a research paper on **Assessing the acceptability and willingness to pay for HIV services among patients at LVCT Health HIV Clinics.** The information obtained from you shall be treated confidentially and shall be used for academic purposes only.

Our MBA seeks to establish links with industry, and one of these ways is by directing our research to areas that would be of direct usefulness to industry. We would be glad to share our findings with you after the research, and we trust that you will find them of great interest and of value to your organization.

We very much appreciate your support and we shall be willing to provide any further information if required.

Yours sincerely,

Prof. Gilbert Kokwaro

Director, Institute of Healthcare Management and

Academic Director, MBA in Healthcare Management

Strathmore UNIVERSITY
Ole Sangale Road Madaraka Estate
P.O. Box 59857 00200 Nairobi, Kenya
Cell: +254 703 034 414/6/7
Email: info@sbs.ac.ke or visit www.sbs.strathmore.edu
Twitter: @SBSKenya