2018

Assessing the uptake and utilization of the National Hospital Insurance Fund's cancer benefit package at the MP Shah Hospital in Nairobi.

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ASSESSING THE UPTAKE AND UTILIZATION OF THE NATIONAL HOSPITAL INSURANCE FUND'S CANCER BENEFIT PACKAGE AT THE MP SHAH HOSPITAL IN NAIROBI

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MBA-HCM/94103/16

Submitted in partial fulfillment of the requirements for the award of a Master's in Business Administration (MBA) Degree

STRATHMORE BUSINESS SCHOOL

NAIROBI, KENYA

June 2018

DECLARATION AND APPROVAL

Declaration by Student

I declare that this MBA project has not been previously submitted and approved for the award of degree by this or any other university and does not contain material previously published or written by any person except where due reference is made in the proposal itself.

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June 2018

Approval

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ABSTRACT

Universal healthcare coverage (UHC) is a top priority for the Kenyan government, yet it presents a major challenge, with the increase in cancer incidences. This study sought to generate evidence on strengthening oncology services in Kenya by assessing the uptake and utilization of the recently launched National Hospital Insurance Fund (NHIF) Cancer Benefit Package among MP Shah Hospital clients, in Nairobi County. A mixed methods approach was used, combining a questionnaire survey among 71 cancer patients and in-depth interviews with 25 stakeholders/patients. Statistical and thematic content analyses were used for the survey and qualitative data respectively. Four-fifths of study participants were recently diagnosed with cancer (the last two years). The main barriers to access were low availability of cancer treatment facilities and limited access to specialized doctors and nurses. Two-thirds of respondents experienced catastrophic costs saying that the treatment was consuming more than 40% of their household income. It is evident from the study that uptake of health insurance among respondents was higher during treatment at 83% compared to only 66% at the time of diagnosis with only 63% of respondents aware of the Cancer Benefit Package . A resounding majority of respondents (70%) sought treatment at the facility because of the perceived high quality of services made affordable by the Cancer Benefit Package. The National Hospital Insurance Fund's Cancer Benefit Package provides a roadmap for accelerating Universal Health Coverage agenda in Kenya by offering financial protection among cancer patients. This study recommends decision makers to expand the mandate of this scheme to include coverage among underserved populations especially in the rural areas. This can be through decentralization of cancer diagnostic and treatment centers as well as training and development of adequate health personnel in oncology. Similar studies are required both in the public and the private entities to come up with recommendations on how to promote sustainable access to oncology services in Kenya.

Keywords: Universal Health Coverage (UHC), Non Communicable Diseases (NCDs), Low- and Middle-Income Countries (LMICs), Health Financing, Social Health Insurance, Financial Protection, Kenya

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DEFINITIONS OF OPERATIONAL TERMS

Access

The ability or permission to make use of a specific service; In this study access was measured by dividing it into 4 subcomponents- affordability, accessibility, acceptability, and availability defined below.

Affordability

Having the means to do something, or bear the cost of something without risking serious consequences or inconvenience.

Acceptability

User friendliness of a service or whether the service conforms to the norms, expectations and cultural behaviors of a population

Availability

It referred to whether health care workers or health facilities were readily obtainable when needed.

Utilization

The action of making practical and effective use of something

Benefit Package

The total of health services that a member is entitled to for the premium paid to the Fund.

LIST OF ABBREVIATIONS

UHC	Universal Health Coverage
NHIF	National Hospital Insurance Fund
WHO	World Health Organization
LMIC	Lower and Middle-Income Country
CCK	Cancer Care Kenya
OOP	Out of Pocket
NHL	Non-Hodgkin's Lymphoma
SDG	Sustainable Development Goals
NCDs	Non-Communicable Diseases
MOH	Ministry of Health
KNH	Kenyatta National Hospital
MTRH	Moi Teaching and Referral Hospital
GoK	Government of Kenya

ACKNOWLEDGEMENTS

I would wish to thank the Almighty God for His guidance throughout the development of this project report. My sincere gratitude goes to my supervisor Dr. Frank Wafula for dedicated supervision, guidance, and encouragement in the development of this research project report.

I also wish to thank the entire staff of Strathmore Business School, for teaching me the various units in healthcare management. The knowledge acquired was instrumental in the development and writing of this report. My appreciation also goes to the MBA (Healthcare Management) class of 2016 for the team work and moral support.

Special gratitude to the supportive staff at MP Shah Hospital's Cancer Centre and my family members for patience and financial support throughout my study.

DEDICATION

To God almighty for his mercies and blessings

I dedicate this thesis to my best friend, my soul mate, my wife and the mother to our wonderful daughter. She stepped wonderfully into my roles and carried the family through my absence without a complaint. She let me fly on my wings knowing that my success is her success. If I were to choose a life-long partner all over again, I would still choose her.

To my beautiful daughter, Zuriel who saw me burn the midnight oil, who bore the brunt of my absence in the home and in whom I pray that, I will be her inspiration and role model. That when you stop learning, you become old. To my parents, who have always been my bedrock of support since I opened my eyes, I would not be where I am without you!

1 CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

According to the Kenya Health Policy 2012-2030, Kenya aims to attain the highest possible standard of health in a manner that is responsive to the health needs of the population (Health, 2013). Its strategic objectives include halting and reversing the rising burden of non-communicable diseases (NCD's) like cancer, cardiovascular diseases and diabetes. Among the NCDs, cancer is a particularly challenging problem, not just because of a relatively lack of effective treatments, but also because of the financial burden that the treatment costs place on households (Hoang et al., 2017).

The cancer incidence is expected to rise globally by 70% in the next 20 years, with majority of cases being reported in low and middle income (LMIC) countries where 57% of new cancer cases and 65% of deaths from cancer occur (Ahmedin Jemal DVM et al., 2011). The burden will be particularly heavy in low- and middle-income countries such as Kenya, where 82% of the world's population reside, mainly due to reduction in communicable diseases (leading to more people growing older and developing NCDs) and adoption of lifestyle behaviors that increase the risk of cancer and other NCDs.

It is estimated that up to 41,000 new cases of cancer are reported each year in Kenya, resulting in more than 28,000 deaths annually (luke, 2014). The rising burden of cancer is worsened by the high cost of treatment which can impoverish households due to catastrophic expenditure (Barasa, Maina, & Ravishankar, 2017)

Kenya's health system is scarcely prepared to handle the rising cases, with the country having only 12 well equipped cancer diagnosis and treatment centers (seven private hospitals, two mission hospitals and three public facilities, all concentrated in urban areas (WHO, 2014). Access is limited, with excessively long waiting lists for essential treatments such as radiotherapy. Poorer groups are worst hit, as they do not have the option of seeking the services at the more expensive private facilities. Interest is growing among policy makers on the importance of establishing sustainable health insurance programs as a way of increasing access to health care and protecting families from catastrophic healthcare

costs. Most notably, the World Health Organization (WHO) has called on member states to implement financial risk protection measures to protect the poor and vulnerable groups (World Health Organisation (WHO), 2017). In Kenya, discussions on UHC have mainly centered around expanding the mandate of the National Hospital Insurance Fund (NHIF, Kenya's public insurance scheme) to cover all Kenyans and meet the Sustainable Development Goals (SDGs) health targets (World Health Organisation (WHO), 2017). In 2011, the 64th World Health Organization (WHO) assembly urgently called for health systems to reform their health financing arrangement in a manner that promotes prepayment health financing mechanisms (World Health Organization, 2011a).

The NHIF covers about 15% of the population that translates to approximately 88.4% of all persons with insurance in Kenya (Ministry of Health, 2014). Recent studies indicate that 2.4 million Kenyans are at risk of impoverishment due to catastrophic health expenses (Chuma & Maina, 2012). Presently, about 27% of total health expenditure in Kenya is out of pocket(OOP) (Ministry of Health, 2015). This means that NHIF is currently the only major form of social health insurance in Kenya that policy makers need to harness as a pathway to achieving UHC (Ministry of Medical Services, 2012).

Delay in access to preventive services is a barrier to get early diagnosis and treatment, and it has been shown to be associated with several complications (Weissman, Stern, Fielding, & Epstein, 1991). In contrast, timely access to preventive services improves health outcomes and increases quality of life (Koh, Blakey, & Roper, 2014). In a study on exploring treatment outcomes of children with Non-Hodgkin's Lymphoma (NHL) in Kenya, three quarters of patients had no health insurance at diagnosis. Children with NHIF at diagnosis had significantly lower chance of abandoning treatment and higher chance of survival and thus treatment outcomes could be improved by interventions that prevent treatment abandonment and improve access to NHIF (Mostert et al., 2014).

Previous studies in Kenya have shown an overall lack of knowledge on health insurance, enrollment options and procedures for enrolling which has contributed to low uptake of insurance (Pettigrew & Mathauer, 2016). A study on the distribution of health insurance coverage in Kenya identified social economic factors such as marital status, household

income among others as significant contributing factors to uptake of health insurance (Kazungu & Barasa, 2017). Similarly, Bawa et al (2011) concluded that despite increased awareness of insurance concept in India, the level of subscription had not improved since as a result 19.4% of the respondents were being covered by any form of health insurance while the a large proportion of the population was still financing health care expenditure without health insurance (Bawa & Ruchita, 2011).

A recent economic survey reported that Kenyans paid 62 billion KES in healthcare expenses out of pocket (Ministry of Health, 2015). In 2015, NHIF introduced a cover of up to 5 million KES for cancer patients who needed treatment outside the country. The NHIF subsequently introduced a comprehensive cancer outpatient benefits package, in October 2016 to specifically cater for cancer treatment within the country (Deloitte, 2016).

1.2 Statement of the Problem

Recent years have witnessed increased incidences of cancer in Kenya (Korir, Okerosi, Ronoh, Mutuma, & Parkin, 2015). With considerable gains being made globally in curbing communicable diseases, the rising incidences of cancer and other non-communicable diseases (NCD) pose the greatest threat to human health (Islam et al., 2014). This is worrying, considering the high costs of diagnosis and management of cancer.

In Kenya, cancer is the third leading cause of deaths after infectious diseases and cardiovascular diseases (Ministry of Health, 2015). Most patients are diagnosed with late stage disease at time of seeking treatment, among the factors associated with late diagnosis are lack of awareness of signs and symptoms, lack of access to primary preventive services and high costs of diagnostic testing and treatment (Makau-Barasa et al., 2017). Regardless of stage at diagnosis, cancer treatment requires a lot of financial resources both on the patient and the healthcare provider. This leads to loss of productivity hence economic loss through associated morbidly or mortality as well as impoverishment due to direct out of pocket payments (OOP) given that less than 18% of Kenyans have some form of health insurance with about 2.9 percent of the poorest having some form of cover compared to 41.5 percent among the richest population (Ministry of Health, 2014).

Studies in Kenya have shown low insurance coverage among cancer patients (Mostert et al., 2014). Improving access to cancer testing and treatment in Kenya can be done by reducing treatment costs, raising cancer awareness, and ensuring access by decentralizing diagnostic and treatment centers (Makau-Barasa et al., 2017).

The World Health Organization (WHO) proposed reforms in design of national financing system to allow people to access health services on basis of need rather than the ability to pay. In Kenya, the National Hospital Insurance Fund (NHIF) is making effort to achieve UHC. The Fund recently introduced a cancer (oncology) benefit package whose premiums range from KES 500 to 1700, however, utilization of oncology services remains low despite the introduction of the benefit package nearly 12 months prior. The introduction of the package is expected to increase the numbers of cancer patients seeking oncology services in Kenya which are mostly located in tertiary facilities at a higher cost.

This study sought to contribute towards strengthening access to oncology services by assessing uptake and utilization of the NHIF Cancer Benefit package. By assessing these parameters, information was generated on the NHIF preparedness to achieving UHC by addressing the financial challenges facing cancer patients at the facility and examine coping mechanisms, if any, that the facility adopted to deal with the challenges.

1.3 Research Objectives

1.3.1 General Objective

To describe the uptake and utilization of the National Hospital Insurance Fund's Cancer Benefit Package among patients at M.P. Shah Hospital, and explore reasons behind the reported utilization patterns

1.3.2 Specific Objectives

i. To assess the Cancer Benefit Package's contribution towards promoting access to oncology services among at the MP Shah Hospital's Cancer Treatment Centre.
ii. To explore reasons underlying the insurance coverage and utilization patterns reported among the cancer patients.

1.4 Research Questions

i. How has the coverage (Cancer Benefit Package) improved accessibility of oncology services among patients attending the MP Shah Hospital's Cancer Centre?

ii. What are the reasons influencing coverage and utilization of insurance products among cancer patients?

1.5 Scope of the Study

The study was conducted at M.P. Shah Hospital's Cancer Care Kenya (CCK), a high-volume oncology center in Nairobi County. The study focused on both insured and uninsured patients seeking treatment at the facility to assess uptake and utilization of NHIF cancer benefit package.

1.6 Justification of the Study

Cancer remains a major killer in Kenya ranking third after infectious diseases and cardiovascular illness (MOH, 2015). A great effort has been achieved in controlling communicable diseases in Kenya through prioritized funding and health promotion, whilst emerging non-communicable diseases (NCDs) like cancer are expensive to treat. Main challenge is financial risk protection which is vital for achievement of Universal Health Coverage (UHC), it is therefore essential to study the healthcare purchasing experiences of cancer patients so that better ways of handling the impact of the disease and its treatment can be put in place. There have been no studies in Kenya investigating the impact of NHIF cancer benefit package in promoting access to oncology services; this will spur interest with academicians to further studies in this area. Hospitals will also benefit from this study, as they will understand the barriers that currently hinder patients from accessing prompt cancer treatment.

Findings from the study will inform health insurance providers both in the public and private sector on the choice of affordable design package for cancer patients. Lastly the study will be of important use for the county government and other stakeholders involved in health service delivery particularly cancer services both at the county and national level.

2 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The following chapter contains a review of the literature, which has conceptualized contributing factors to uptake and utilization of NHIF Cancer Benefit Package. Literature for the review was sourced from respected sites such as PubMed as well as reports from the World Health Organization among other entities focusing on healthcare financing. The review begins with exploration of theoretical concepts, particularly models and theories related to demand and utilization of health insurance. Additionally, an empirical review of literature addresses findings from published studies on NHIF scheme focusing on coverage and adherence to the global standards aimed at achieving UHC. This section also explored the variables under study, which include: utilization of oncology services, awareness of benefits of NHIF cancer scheme and access to cancer care. A methodological review of literature on access to healthcare was used to come up with a conceptual framework, which is primarily based on Penchasky and Thomas's Theory of Access.

2.2 Theoretical Review

2.2.1 Expected Utility (EU) Theory

Generally, insurance demand studies use expected utility theory to explain individuals' decision of whether or not to insure. Under expected utility theory, the demand for insurance reflects individuals' risk aversion and demand for income certainty (Schoemaker, 1982). At the time of insurance choice, consumers are uncertain whether they will be ill or not, and of the related financial consequences. Insurance reduces this uncertainty. Begg et al (2000) argues that the more risk averse individuals are, the more insurance coverage they will buy (Begg D, 2000). However, according to Nyman (2003), individuals' insurance decisions may not only be affected by risk aversion but also by the access motive of insurance (Nyman, 2003). The access motive reflects the gains from the availability of medical care that would otherwise be unaffordable for the poor. Gaining higher access to care when insured may cause the poor to insure if they are unable to obtain needed health care when uninsured. Without insurance, the poor would not have enough money and time to save for an expensive health care procedure, and lending institutions

may be reluctant to lend money when the ability of the patient is limited to repay these loans (Nyman, 2003)

2.2.2 Prospect Theory

This theory suggests that people insure from a gain perspective and not because insurance reduces uncertainty. With respect to losses, individuals are risk preferring. Following from this, individuals will only insure if the loss will occur with certainty, and not because they are risk averse as suggested by EU theory (Kahnemann & Tversky, 2009).

2.2.3 Adverse selection theory

This can be defined, as strategic behavior by more informed partner in a contract against the interest of the less informed partner. This is relevant in the health insurance market because everyone chooses among the set of contracts offered by the insurance company according to their probability of using health services. In other words, those who foresee an intense use of health services will tend to choose more generous plans than those who expect a more limited use of them. The high-risk individual will seek health insurance while a low risk individual will avoid health insurance up to the point of requiring medical services to be paid (Morris et al 2007; Wagstaff, 2010).

2.2.4 Penchasky and Thomas's Theory of Access

As conceived by Penchansky and Thomas (1981), access reflects the fit between characteristics and expectations of the providers and the clients. They grouped these characteristics into five As of access to care: affordability, availability, accessibility, accommodation, and acceptability (Penchansky & Thomas, 1981). Affordability is determined by how the provider's charges relate to the client's ability and willingness to pay for services. Availability measures the extent to which the provider has the requisite resources, such as personnel and technology, to meet the needs of the client. Acceptability captures the extent to which the client is comfortable with the immutable characteristics of the provider, and vice versa.

The theory states that these five as of access form a chain that is no stronger than its weakest link. For example, improving affordability by providing health insurance will not significantly improve access and utilization. However, Emily Saurman (2016) argued that one dimension is missing – awareness. He proposed that awareness is integral to access, that it should become a permanent part of the theory, and be applied whenever using the theory to develop, implement, or evaluate health care services and access more generally (Saurman, 2016).

2.3 Health Insurance in Kenya

According to Kutzin, the three broad functions of health financing are revenue collection, pooling and purchasing (Kutzin, 2001). Health financing is one of the six pillars of the health system building blocks and is described as "oil of health system". Healthcare can be funded through various ways ranging from direct payments (user fees and out of pocket), to indirect payments that pool across time (prepayment) and across different risk and wealth groups (insurance and general taxation). Kenya has had various health reforms post-independence but not much progress has been made towards achieving UHC until recently. The country has had one public health insurance scheme, National Hospital Insurance Fund (NHIF), a non-profit institution created by an Act of Parliament in 1966 under the Ministry of Health.

In 2013, only about one in every five Kenyans (17.1%) had some form of health insurance coverage according to a health expenditure and utilization survey (Ministry of Health, 2014). The survey showed that the NHIF covered 88.4 percent of those insured, while private insurance covered 9.4 percent. Community-based and other forms of insurance coverage covered 1.3 percent and 1.0 percent, respectively. Insurance coverage is higher among urban populations (26.6%) compared with rural populations (12.1%).The survey also showed that NHIF dominated in both the rural and urban areas at 92.2 percent and 85.2 percent, respectively. These findings raise concern about equity and financial accessibility to healthcare by majority of Kenyans given that four out of ten(46,6%) of individuals live below the poverty line (World Health Organization, 2011b) and are highly vulnerable to catastrophic out of pocket health expenditure.

2.3.1 NHIF Coverage in Kenya

The overall health insurance coverage in Kenya has increased from 8.17% to 19.59% between 2009-2014 period (KDHS, 2014). The report also established that towards year 2014, health insurance coverage increased among those with chronic diseases like cancer and cardiovascular diseases. There are about 6.3 million principal NHIF members according to NHIF database of 2016 with three in five principal members working in the formal sector (Deloitte, 2016). The number is expected to rise to about 25 million with dependents, however, a recent economic survey showed that majority of poor Kenyans in the informal sector are underutilizing NHIF with 62.1 billion Kshs spent on out of pocket on health in 2013 which was three times the private medical insurance premiums paid that year ,at 20.8 billion KSh (KNBS, 2017) .

According to World Health Organization (WHO), there are three dimensions of coverage summarized as WHO's financing 'cube" as height, breadth and depth. For a health system to achieve universal coverage, the height (proportion of the service cost covered), breadth (covered services), and depth (proportion of the population covered) must be taken into account (Who, 2010). This calls for LMIC like Kenya to expand coverage of healthcare by strengthening health financing through;

- Expansion of prepayment and risk pooling over time to cover entire populations, in some cases on a group-by-group basis
- Provision of a more comprehensive benefit package of health interventions and covered conditions
- Expansion of risk pooling and financial risk protection through the elimination of out-of-pocket expenses at the point of service delivery for the poor and for those interventions considered of high value where use should not be deterred (Jamison et al., 2015)

In 2013, at the background of enactment of new constitution of Kenya 2010 that enshrined in article 43 (a) that "every person has a right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care" (Gok, 2010), the government abolished user fees in public primary healthcare facilities and introduced free maternity service in all public health facilities. This was a step in the right direction towards universal health coverage as the national health insurance (NHIF) expanded the benefit package for its members from inpatient to outpatient services and introduced a health insurance subsidy program whereby poor households are identified and given 100% subsidy of NHIF membership (Mwaura, Rogo, Ramana, Barasa, & Coarasa, 2015). NHIF works with more than 600 accredited Government, private and mission health providers (Deloitte, 2016) and has currently a population coverage of 20% according to its strategic plan report 2014-2018.

2.4 Utilization of Cancer (Oncology) Services in Kenya

Cancer often requires relatively expensive medical treatment for extended periods, leading to household impoverishment and worse still, treatment abandonment. Poor outcomes often occur especially if the disease is detected at a later stage or patients cannot adhere to a full regime of treatment. Studies done in Kenya on improving access to cancer testing and treatment shows that high cost of testing and treatment, low levels of knowledge about cancer among population and clinicians and lack of a decentralized diagnostic and treatment facilities as major barriers to access and utilization to oncology services in Kenya (Makau-Barasa et al., 2017).

Kenya like any other LMIC ,faces a burden of high OOP on healthcare especially chronic ailments like cancer and It is therefore paramount for the policy makers to improve access to cancer care by improving or providing them with an affordable health insurance scheme as well as establish testing and treatment facilities across the counties. Were et al (2011) in a study among cervical cancer patients in western Kenya found that insured patients had higher treatment completion rates and higher chances of event free survival 2 years after treatment compared with the uninsured (Were, Nyaberi, & Buziba, 2011).

2.4.1 Past utilization of Cancer Care in Kenya

A study on factors influencing late presentation of cancer cases in a tertiary hospital in Kenya identified financial constraints and lack of awareness as primary causes for late on set of disease as well as associated high morbidity and mortality (Makite, Kimani, & Njuguna, 2017). Late presentation of cancer cases follows an overwhelming treatment course that drains a household financial resources resulting in catastrophic expenditure that could have been avoided with early detection. Aside from financial constraints, majority of Kenyans especially in the informal sector are afraid to seek early treatment due to cultural perception of cancer as a western illness as well as lack of proper information on cancer as portrayed by primary care givers (Githaiga & Swartz, 2017).

Once diagnosed with cancer, an individual faced a long waiting list for specialized services like radiotherapy, chemotherapy mostly at the two public referral hospitals in Kenya, MTRH and KNH. Some patients resorted to raising funds through fundraising "harambee" if they could not afford immediate high costs in private facilities. There was also reported high number of patients travelling outside the country to India to seek oncology services. The existing public health insurance, NHIF, had not incorporated Non Communicable Diseases (NCDs) like cancer among existing services covered.

2.4.2 Current Utilization of Cancer Care

The Kenya National Cancer Control Strategy 2017-2022 was launched on June 2017 in line with Sustainable Development Goals (SDGs) on reducing premature mortality from non-communicable diseases including cancer by one-third by year 2030 (WHO, 2016) . Among the key highlights on the strategy were need to ensure equitable access to the entire range of cancer prevention and control services with a focus on the most vulnerable populations. A study showed that by improving health insurance for patients with cancer in Kenya would improve access to oncology services among the patients (Makau-Barasa et al., 2017).

In 2016, NHIF enhanced its benefit package and rolled out outpatient services for cancer treatment including chemotherapy, radiotherapy as well as enhanced inpatient services to NCDs like renal dialysis and cancer management (Makau-Barasa et al., 2017). The inclusion of cancer services to the cover has seen gradual increase in utilization of services and recent data from the national insurance shows that cancer patients made 6,941 claims to access radiotherapy sessions for Sh120.3 million in the six months from December 2016, up from Sh433,510 a year earlier (Health Policy Project, 2016). Despite the increased utilization rates of the NHIF cancer package, most Kenyans are unaware of the neither enrollment options nor benefits of the package especially among the informal sectors. Inadequate health infrastructures like cancer treatment centers as well as geographical barriers make these services unavailable especially with healthcare devolved to the counties.

2.5 Access to Cancer Care - What does it entail?

A broader definition identifies five dimensions of access, three of which will be used in this context (Penchansky & Thomas, 1981). This is based on McIntyre et al.'s (2008) view of access as a multi-dimensional concept that includes availability (physical access), affordability (financial access), and acceptability (cultural access).She argues that access could be understood in a comprehensive manner by determining the interactions of these dimensions(McIntyre et al., 2008).

2.5.1 Availability

This aspect is concerned with whether or not the appropriate health care providers or services are supplied in the right place and at the right time to meet the prevailing needs of the population. This supply-side dimension is often first-in-mind when policy-makers consider access. According to Iaea, 2003, half or more of cancer patients need radiotherapy. Yet although developing countries account for 85% of the global disease burden, they have only about one third of the world's radiotherapy machines (IAEA, 2003)

A study done in Ethiopia on health seeking behavior for cervical cancer found that modern medicine was not a preferred option for initial treatment with the women opting for traditional remedies. One of the reasons for this is lack of availability of appropriate services in their health care system coupled with their financial and logistical inaccessibility. This underscores the importance of availability of health services for health care utilization (Birhanu et.al:, 2012).

2.5.2 Affordability

Also referred to as financial access, relates the price of health services and medical aid to the income of clients. It incorporates the client's perception of value-for-money and their understanding of prices, total costs (direct and indirect) and possible credit arrangements. The direct cost of cancer care include diagnostic tests, hospital and physician fees, and the cost of drug therapy (Meropol & Schulman, 2007)

Indirect costs are incurred by patients as well as their care givers and families. They are generally broken down into morbidity (e.g., lost productivity due to work disability) and mortality (e.g., lost productivity due to premature death) (NCI-Center to Reduce Cancer Health Disparities, 2004).

2.5.3 Acceptability

Acceptability relates to socio-cultural barriers that determine health seeking behavior in individuals. It describes the compatibility of provider-patient attitude towards expectation of each other. This aspect has not received enough attention in the literature (McIntyre et al, 2009: 179), and as such, the preferences of individuals or households are often overlooked in the analyses of health access (Thiede et al, 2007). A recent microeconomic study by Honda, Ryan, Van Niekerk & McIntyre (2015) argues that improvements in availability and affordability of public health care in South Africa will not amount to much if clients do not find the quality of public health services acceptable (Honda, Ryan, van Niekerk, & McIntyre, 2015).

Kingsley (2010) argues that In the case of reproductive cancers such as breast cancer, prostate cancer, cervical cancer among others, individuals may fear the discovery of these cancers and worry about seeming defective or less feminine or masculine to a partner. These emotions, combined with the cost of healthcare, limited accessibility, and the daily need to care for a busy life, may lead many patients to postpone screening and treatment services (Kingsley, 2010).

2.6 Empirical Literature Review

The following section outlines the findings from different authors about barriers to access of healthcare in relation to social health insurance uptake and utilization.

Gobah and Liang (2011) sought to assess the effect of the Scheme on access to and utilization of healthcare services in the Akatsi District of the Volta region of Ghana. Both qualitative and quantitative data was collected through face-to-face interview with 320 individuals and three service providers using structured questionnaires. The result show that age, level of education, level of awareness and occupation are major determinants of membership of the scheme. The scheme had a positive effect on health seeking behavior and utilization of health care services by removing significant financial barriers to access (Gobah & Zhang, 2011).

Chuma and Maina (2012) sought to estimate the burden of OOP in Kenya by looking into the incidence and intensity of catastrophic health care expenditure and the effect of health spending on national poverty estimates. Data were drawn from a nationally representative health expenditure and utilization survey (n = 8414) conducted in 2007. Results from the survey showed that Kenyans are becoming poorer due to health care payments with households spending over a tenth of their budget on health care payments each year. The study also showed that a larger proportion of households incurred catastrophic payments due to outpatient services compared to inpatient care. These findings show that outpatient care can be expensive and highlight the need to include outpatient benefit packages in the NHIF (Chuma & Maina, 2012).

Platteau and Ontiveros (2013) in an attempt to understand the factors underlying low uptake and renewal rates of health insurance in Maharashtra State in India conducted a study on understanding of insurance concepts and the level of information that people had on insurance. The findings of the study were: low enrolment and renewal was influenced by deficient information on the functioning of the scheme and poor understanding of insurance concept with most respondents citing lack of information on how to use the insurance (Platteau & Ontiveros, 2013).

Makite I et al (2017) in their study on reasons for delayed presentation of patients at KNH with retinoblastoma (curable cancer of the eye when detected early) found that financial constraints (25.0%) and lack of awareness about the disease (6.3%) as the most common reasons. There was no association between delayed presentation and parent's or caregiver's employment, education level, having health insurance or living in rural or urban areas ($p>0.05$) (Makite, Kimani, & Njuguna, 2017).

Sultane (2017) investigated accessibility of breast cancer services in Mombasa County. A mixed methodology approach was used. Primary data was gathered from three focus group discussions held in groups of 9 each and a questionnaire was administered to 86 women. The data were analyzed by thematic content analysis for qualitative data and descriptive statistics for quantitative data. It was established that key access barriers in terms of availability of cancer services include unavailability of radiotherapy services, physical inaccessibility of facilities, unavailability of specialized doctors and nurses in the public service (Sultane, 2017).

There is growing evidence from several LMICs that have implemented universal health insurance and other innovations to provide financial protection for cancer. Mexico and Colombia are examples of a handful of countries in which cancer care and control is an entitlement and is incorporated into health insurance programs targeted to poor people. Through Popular Health Insurance, *Seguro Popular de Salud*—which was introduced in 2004, Comprehensive treatment regimens for cervical and breast cancer, and a range of childhood and adolescent malignancies are covered for all Mexicans (Knaul, Felicia Marie, Frenk, Julio and Shulman, 2011).Similarly, Colombia's universal social health insurance has been in place since 1993, with a subsidized scheme providing specific entitlements for

the poor. The mandatory health plan has included treatment for cancers since 1994 (Guerrero, Prada, Pérez, Duarte, & Aguirre, 2015).

In most low-income countries, access to health care is a factor of individual ability to pay. This fact largely explains observed inequalities in access to services and that ill health represents a real risk to the maintenance of other essential expenditures e.g. food and education. Kara Hanson et al on expanding access to priority health interventions argued that access to health interventions is hindered by problems of demand, poor service delivery systems and constraints related to governance, corruption and geography (Hanson et al., 2008).

Barasa et al (2017) in local studies argues that public health insurance, NHIF must make known of their products and services to clients especially the informal sectors to improve accessibility of healthcare. He suggests that NHIF could improve enrolment and retention of informal sector individuals by using communication strategies. The strategies should be effective at reaching the informal sector, improving the affordability of the premium rates, simplifying the enrolment requirements and process, and strengthening accountability mechanisms between itself and healthcare facilities to ensure that enrolled members receive the benefits that they are entitled to, and that client experience at healthcare facilities are satisfactory (Makau-Barasa et al., 2017).

In response to illness, household members make decisions about treatment and if the illness is serious, they may have to reallocate tasks to cope with the loss of a worker or to care for a sick household member, and borrow money to pay for treatment or replace lost earnings. These coping strategies are defined as actions that aim to manage the costs of an event or process (in this case illness) that threatens the welfare of one or more members of a household. These coping strategies ultimately seek to sustain the economic viability and sustainability of a household (Sauerborn, Adams, & Hien, 1996). Diane McIntyre et al (2008) in their focus on healthcare financing in developing countries suggested that every effort should be made to achieve universal health care coverage(UHC) through a system that provides all citizens with adequate health care at an affordable cost by a prepayment financing mechanism (McIntyre et al., 2008).

2.7 Conceptual Framework

The study adopted a combination of theoretical arguments by Penchansky and Thomas (1981); McIntyre et al (2009) on the access framework which aims to describe the fit between the patient and the healthcare system. This discussions facilitated the inquiry on how demographic and accessibility factors as well as the level of awareness of health insurance influences the uptake and utilization of NHIF Cancer Benefit Package. The independent, dependent, moderating, and intervening variables for the study are linked together in figure1. The first column shows some of the determinants of uptake of NHIF, which in relation to factors in the second column that include government policy and other forms of healthcare payments. Understandably, alternative risk coping strategies in view of economic, political, demographic, and socio-cultural conditions influence the uptake and utilization of NHIF Cancer Benefit Package leading to favorable outcomes among cancer patients in terms of improved health status, financial risk protection and access to quality care.

The study used demographic factors, accessibility factors, and level of awareness as the independent variables while the uptake of health insurance (NHIF Cancer Package) as the dependent variable. The demographic factors were conceptualized as age, employment status, marital status, and education level of study participants. Accessibility factors were conceptualized in the study as availability, affordability, and acceptability of the NHIF Cancer Benefit Package. This sphere of access is an adaption of Penchasky and Thomas' taxonomy by McIntyre et al (2009). The last independent variable was the level of awareness about NHIF products and services including registration procedures. As proposed by Emily Saurman (2016), awareness is integral to access and should become a permanent part of the theory of access whenever evaluating health care services and access more generally.

The indicators of the dependent variable were conceptualized as the enrollment rate and utilization of NHIF Cancer Benefit Package. The study conceptualized an intervening variable to explain the measures taken by participants to cushion themselves from the financial burden in seeking cancer treatment. Additionally, the role of government as a regulator in the healthcare industry in addressing catastrophic costs was considered. Alternative risk coping strategies representing other forms of healthcare payments and government policy were the intervening and moderating variables respectively.

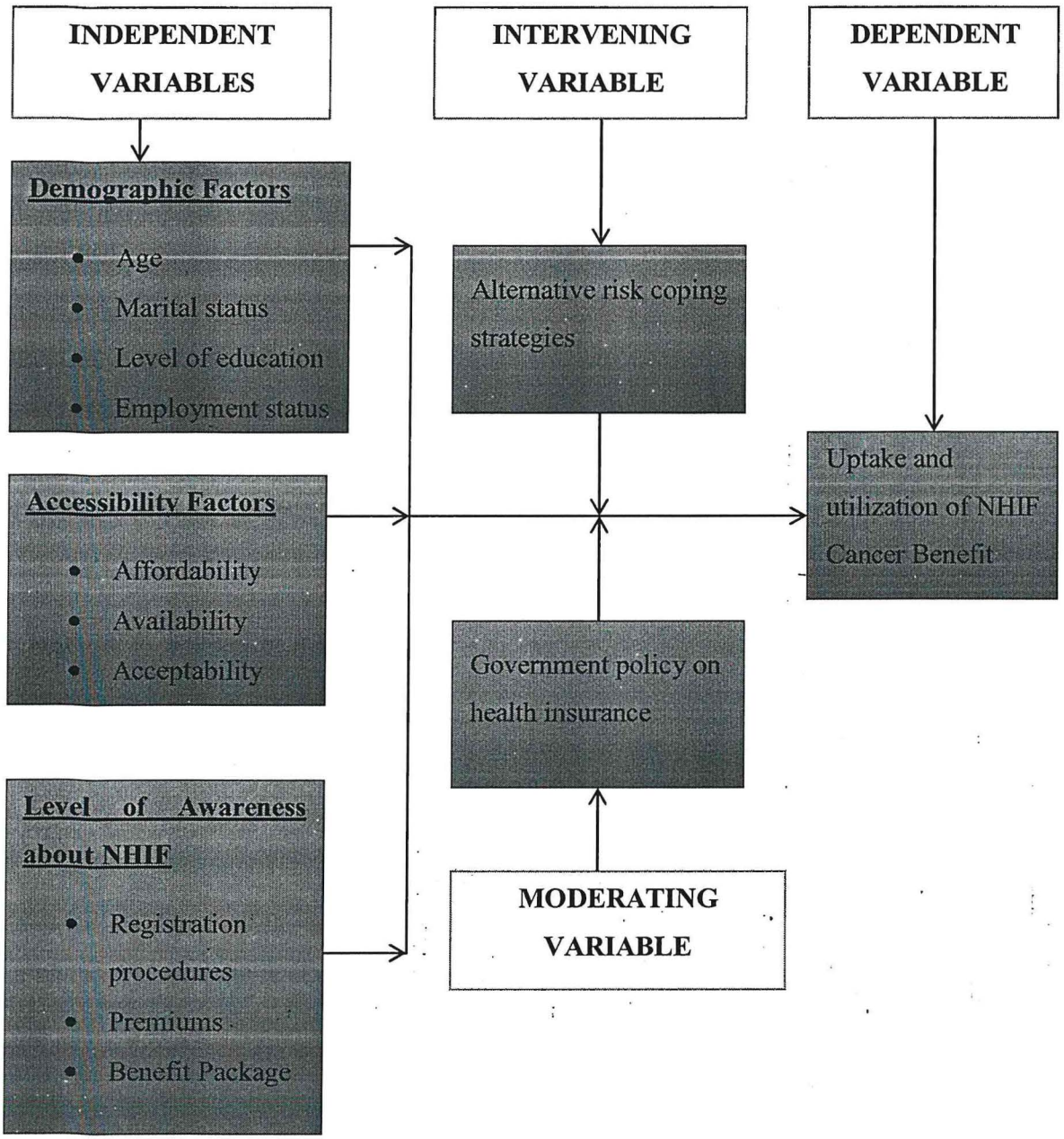

Figure 2.1: Conceptual Framework (Researcher, 2018)

3 CHAPTER THREE: RESEARCH METHODOLOGY

This chapter outlines the research methodology, which was used for the study. Specifically, it explains the research design, target population, sample and sampling techniques, validity and reliability of research instruments, methods of data collection, and methods of data analysis as well as ethical considerations.

3.1 Research Design

The research adopted a descriptive cross-sectional survey design. The mixed methodology was chosen because it best suited the objective of the study in generating detailed information about the individual and household experiences in purchasing healthcare for cancer treatment. Mixed methods was defined as the combination of quantitative and qualitative approaches in order to provide a better understanding of the research problem than either approach alone (Creswell & Clark, 2007).

3.2 Study Site

The study was conducted at the MP Shah Hospital (Cancer Care Kenya or CCK) in Nairobi County. The choice of facility and location was informed by the fact that most cancer treatment centers are located in urban set up, more so in Nairobi (Korir et al., 2015). The facility is one of the NHIF accredited centers that offer oncology services and being a private facility, provides a perceived comprehensive quality healthcare that may influence access to oncology services. The cancer facility was founded in 2010, and was the first of its kind in East Africa, offering state-or-the-art diagnostic, therapeutic and palliative care services.

3.3 Population and Sampling

The study targeted all patients attending the Cancer Treatment Centre at MP Shah Hospital over the 10-day period. The facility had an average of 15chemotherapy patients each day, and 10 patients for radiotherapy. The study population included both insured and uninsured clients to allow assessment of reasons for not joining the scheme. Clients who participated in the study were;

- Adult cancer patients who were able to give consent
- Adult caregivers to moribund cancer patients authorized to give consent on their behalf.
- Cancer patients of age below eighteen (18) years whose guardian/caregivers gave an assent to participate in the study

Given the small population of patients seen at the facility as well as their homogeneity and availability, the universe of clients was sampled over the 10 day period. The sampling frame included all patients scheduled for hospital visit over the 10-day period. This was obtained from the available patient's booking schedule from the records department

3.3.1 Sample size Determination

3.3.1.1 Sample size for Quantitative Data

The facility received a total of 110 cancer patients over the 10 day period of study. Out of the total client volume of 110, only 75 met the study's inclusion criteria and were eligible to participate in the study. The researcher administered 75 questionnaires where 72 questionnaires were filled and returned representing a 96% response rate. Three questionnaires were not properly completed and returned, thus only using 72 questionnaires for the study. According to Mugenda, (1999) a response rate of 50% is considered adequate while 60% and above 70% rated as very good and substantial for research.

3.3.1.2 Sample size for Qualitative Data

Given time allotment, resources available and study objectives, a sample of 25 clients from the total of 75 that were eligible to participate in the study were purposively selected for topic guide interviews. This was a mix of those with insurance to find out how they used it for cancer care as well as those without (to establish reasons for no coverage and how they paid for cancer services). This provided a more detailed information on utilization and coverage patterns for the NHIF Cancer benefit package at the facility.

3.3.2 Inclusion Criteria

The inclusion criteria were all insured and uninsured patients attending the cancer facility, clients/caregivers who provided informed consent and children whose guardians assented to participate in the survey.

3.3.3 Exclusion Criteria

i. Patients/caregivers who failed to provide consent.
ii. Patients from other departments other than Cancer Treatment Centre

3.4 Data Collection

The study was conducted over a period of two weeks (Monday to Friday from 8 am to 5pm) in the month of March 2018. Two research assistants were trained on how to administer questionnaire, establish rapport with respondents, identify errors and omissions and properly handle completed questionnaires. Qualitative data was used to establish patterns and relationships from information gathered while quantitative data was used to meaningfully describe the distribution of scores in the study.

3.4.1 Data Collection Tools

3.4.1.1 Questionnaires

Semi-structured questionnaire was used to collect quantitative data by two research assistants trained to support the data collection The questionnaire was divided into four sections, each addressing the separate variables in the study (see Appendix I).

3.4.1.2 Topic Guide Interviews

Topic guide interviews were conducted to understand reasons underlying the patients 'uptake and utilization of the NHIF cancer benefit package. The topic guide interview was divided into two sections addressing the challenges on access to cancer care and the NHIF Cancer Benefit Package (see Appendix II). Each interviewee got sufficient time to respond to different questions in a comfortable environment. The Researcher participated in all interview sessions to assure participants that the information shall only be used for research purposes.

3.5 Data Analysis

Data analysis included examining, categorizing, tabulating and recombining the evidence obtained from the research. Statistical Package for Social Packages (SPSS Version 21.0) software was used in the analysis. The data collected was coded and categorized to make it easy to analyze and make conclusions and meaning of the data. Data cleaning was done before analysis to check for correctness of data input to the system.

The analyzed data was presented in frequency distribution tables for ease of understanding and analysis. Descriptive statistics, frequency tables and cross tabulations was used to analyze the Benefit Package's contribution towards promoting access to oncology services. Data on insurance coverage and utilization patterns was analyzed through cross tabulations and conversational analysis. Qualitative data was analyzed thematically and data generated from interview guide was categorized in themes in accordance with research objectives and reported in narrative form along with quantitative presentation.

3.6 Reliability and Validity

Reliability refers to the extent to which a variable or set of variables is consistent in what it is intended to measure. If multiple measurements are taken, reliable measures will all be consistent in their values. Cronbach's alpha was used to test the reliability of the questions asked under different groups. A value of alpha greater than 0.75 implies the data are consistent with the given measurements. The researcher used three constructs of availability, acceptability and affordability. Questions asked under each constructs were not consistent because they had alpha value of less than 0.75. Although the questions show no consistencies, they are relevant in this research hence they will still be used in the analysis.

Validity is the extent to which a measure or set of measures correctly represents the concept of study the degree to which it is free from any systematic or nonrandom error. Validity is concerned with how well the concept is defined by the measure(s). Content validity yields a logical judgment as to whether the instrument covers what is supposed to cover. Content validity ensures that all the correspondents understand the items on the questionnaire. The validity of the instrument was therefore enhanced through appraisal and verification by the supervisor who is an expert and the necessary improvements were made to ensure that the questions in the questionnaire captured and measured what they were expected to.

3.7 Ethical Consideration

The research sought approval from the Strathmore University Ethics Committee before primary data collection commenced. There was assurance on anonymity and privacy of data collected from MP Shah Hospital's Cancer Centre, who approved my study after I followed their protocol on data collection from the facility. The principle of voluntary participation was strictly adhered to. The respondents were not coerced into participating in the research. The purpose of the study was explained to each participant. Once respondents agreed to participate in the study, a consent form was administered by the research assistants (see Appendix IV).

4 CHAPTER FOUR: PRESENTATION OF RESEARCH FINDINGS

4.1 Introduction

This is the results section. The results are presented in four blocks that address the socio-demographic characteristics of study participants, level of awareness of the NHIF Cancer Benefit Package, the uptake and utilization of the package and how it influences accessibility of oncology services. The researcher administered 75 questionnaires where 71 questionnaires were filled and returned representing a 96% response rate. A total of 25 topic guide interviews were conducted on a subset of the 75 eligible participants whom were purposively selected to get an insight on uptake and utilization of the NHIF Cancer Package.

4.2 Demographic Characteristics of the Study Participants

A frequency table was used to provide background information and socio-demographic factors of cancer patients **attending the MP Shah Hospital's Cancer Treatment Centre** as shown in Table 4.1 below.

Table 4.1: Socio Demographic Characteristics Statistics of the population

Socio Demographic characteristics

Characteristics		Frequency	Percent
Age group	Below 18	1	1.4
	18 - 35	8	11.3
	36 - 45	10	14.1
	46 - 55	21	29.6
	Above 55	31	43.7
Marital status	Married	53	74.6
	Widowed	7	9.9
	Single	8	11.3
Level of Education	Uneducated	3	4.2
	Primary	20	28.2
	Secondary	12	16.9
	Mid-level college	19	26.8
	University	17	23.9
Employment status	Formally Employed	30	42.3
	Self-employed	21	29.6
	Unemployed	6	8.5
	Retired	11	15.5

From the table above, the majority of the respondents are married (53) and are within the age bracket of above 55 years (43.7%) representing the most prevalent age for cancer diagnosis at the MP Shah Hospital in Nairobi County. This can be explained by the increasing aging population in the LMIC and adoption of lifestyle behaviors that increase the risk of cancer and other NCDs. The majority had some form of primary education (28%) and three participants were uneducated and this might influence their health seeking behavior. The most likely explanation of this is the ability of literate individuals to understand the health information messages and access to higher income earning opportunities than those who had no formal education. The minority were unemployed at (8.5%) with the majority being the formally employed and the self-employed at (42.3%) and (29.6%) respectively. The higher enrollment for those employed in the formal or

informal sector suggests that they had higher income earning opportunities and therefore their ability to afford the NHIF monthly premiums.

The study also sought to know the period when the respondents were diagnosed with cancer to best understand survivorship. The study findings showed that about 80% of the respondents were recently diagnosed with cancer (the last two years). Only one participant was diagnosed more than ten years ago. This corresponds with the fact that there is an upsurge of cancer cases in Kenya in recent years.

To establish patterns of uptake and utilization of health insurance among cancer patients, the respondents were further asked whether they had any form of health insurance at the time of diagnosis and during treatment. At the time of diagnosis, majority of respondents 66% had health insurance with a corresponding 83% during treatment. Overall, payment for healthcare among cancer patients visiting the treatment center in MP Shah Hospital was 89% insured against 11% uninsured. This suggests a general acceptability of health insurance among cancer patients seen at the facility.

4.3 Uptake and Utilization of NHIF Cancer Benefit Package

An explorative analysis was done to check the percentage of patients admitted for cancer treatment at the facility for the last one year. The study established that 89% of the respondents were admitted for cancer treatment for the last one year and only 11% were not admitted. A cross tabulation was done to check what means of payment did the patients admitted for cancer treatment for the last one year use (Table 4.2). The findings showed that 53% used the NHIF card to pay the hospital bill, 10% used other type of health insurance, 20% used family savings, 15% borrowed from friends and family and about 2% sold family assets.

Table 4.2: Cross Tabulation of Hospital Admissions and Mode of Payment

Have you been admitted/planned for cancer treatment for the last 1 year?		
How did you pay the hospital bill?	Used NHIF card	53.3%
	Used other type of Health Insurance	10.0%
	Used family savings	20.0%
	Borrowed from friends and family	15.0%
	Sold family assets	1.7%
Total		100.0%

The qualitative component sought to explore in depth reasons for the uptake and utilization of the NHIF Cancer Benefit Package. Participants were asked whether the NHIF Cancer Benefit Package addressed equity in financing cancer care regardless of patient's socio-economic status and majority of respondents agreed with this statement. One respondent said;

> *"The package has given me a second chance to life as I have always dreaded cancer as a disease for the rich and a poor man's death sentence due to the high cost of treatment"* **patient with stage 3 cancer**

In comparison to other healthcare payment methods, participants mentioned low premiums payment for a comprehensive coverage as the most notable benefit of the NHIF Cancer Package. One formal worker, who had exhausted his private insurance cover undergoing preliminary staging tests, highlighted this. Majority of the respondents acknowledged that the package provided assurance of the continuity of their cancer care. One respondent in particular had to delay her fourth cycle of chemotherapy by three weeks due to late

approval of her letter of undertaking by her company's health insurance provider. Consequentially, her treatment regime was changed due to the delay. She had a sigh of relief when the NHIF eventually settled her medical claims. The respondent said:

> *"I have never encountered such distress in my life, we had just exhausted our private health insurance and I got so worried when my tumor markers started rising..... I was relieved when my husband's NHIF account was reactivated and the insurance paid the cost of remaining cycles of chemotherapy....."* **Patient on second line chemotherapy**

4.4 Access of Oncology Services

Using Affordability, Availability and Acceptability, a Likert scale was used to assess how the NHIF Cancer Benefit Package has influenced accessibility to oncology services.

4.4.1 Affordability

From the study findings, it was evident that costs of cancer treatment hinder the accessibility of cancer treatment services as shown in Table 4.3 below. More than half of the respondents (53.7%) still needed financial help for medication. A large majority of 47 participants representing (67.1%) said that the cost of treatment was more than 40% of their household income. Similarly, 61% of respondents said they were often/very often worried about sustaining payment for cancer treatment, this reflects on the financial vulnerability associated with cancer management. At least 26% of the respondents said they were not able to meet their basic household needs like food and education.

Table 4.3: Ranks Study Participants' Views on Affordability of Cancer Treatment Services

Affordability of cancer treatment services	**Never %**	**Rarely %**	**Sometimes %**	**Often %**	**Very Often %**
1. I am worried about how I would sustain paying for my treatment	17.1	5.7	17.1	21.4	38.6
2.Cost of treatment usually is more than 40% of my household monthly expenditure	8.6	4.3	10.0	10.0	67.1
3. I am able to attend to other basic needs like food, education etc.	26.1	10.1	15.9	8.7	39.1
4 I still need financial help with the medication I am on	4.5	13.4	10.4	17.9	53.7

Many respondents in the qualitative component of the study emphasized the challenges on affordability of cancer services. The majority reported financial pressures on their households and ability to generate a sustainable income to mitigate the sunk costs incurred during treatment. Four patients said they had to defer treatment while trying to raise funds. One of the respondents developed a treatment relapse as she was unable to afford medication for a targeted therapy for her cancer treatment. She said there had been a positive response to the initial first line medication, but the delay in getting the monoclonal antibody therapy led to further progression of her disease.

> *"Through my savings and income, I was able to purchase only one dose of Herceptin (targeted therapy) which was really expensive at about 200,000Kshs,.....I had exhausted all my earnings and I could not afford further treatment which led to reoccurrence of nodules on my chest wall"*- **patient on hormonal therapy for breast cancer**

Most respondents also noted massive losses of income due to ill health and inability to run their businesses. At least one participant was retrenched from work because of the constant absence due to frequent hospital admissions. He was initially put on a half salary and exempted from full day work at the beginning of his treatment. The permanent loss of his income put his health and well-being of his family at risk. The respondent said:

> *"At times I was forced to choose between buying food for my children and going for chemotherapy... It was a very painful decision."*- **patient on maintenance therapy post bone-marrow transplant**

As a coping mechanism, some respondents consolidated donations to help with their treatment. Others sold household assets like furniture, electronics and some took loans to pay for their cancer care. However, very few participants said they had not faced major financial challenges. Private insurance or employers mostly covered them. At least two study participants said they had travelled to India for treatment, which was paid fully by their employers.

4.4.2 Availability

According to the study findings, the most important barriers include delayed treatment and physical inaccessibility of facilities. Almost half of the respondents (49.3%) often or very often travelled for a long distance to access cancer treatment facilities and a further 35.2% never travelled far from home to access oncology services representing the uneven distribution of cancer treatment centers in the country (Table 4.4). However, a large majority (66.6%) were satisfied that, at the facilities where they were treated, drugs and equipment were available as shown below.

With regard to availability of services, the respondents were asked specific questions which they ranked on Likert scale, where 5 represented "Very often", 4=Often, 3=Sometimes, 2=Rarely and 1=Never (Table 4.4).

Table 4.4: Availability of Services

Availability	Never %	Rarely %	Sometimes %	Often %	Very Often %
1. I was able to get my treatment at the nearest cancer facility	29.6	12.7	11.3	18.3	28.2
2. I did not have to travel far from home to get my treatment	35.2	12.7	2.8	19.7	29.6
3. The facility had the equipment and drugs to ensure proper treatment	13.6	9.1	10.6	22.7	43.9
4.I did not wait for more than a month to commence my prescribed treatment	34.3	6.0	6.0	14.9	38.8

The qualitative component of the study confirmed the various challenges faced by cancer patients with regard to availability of services, for instance, at least two respondents sought treatment abroad and seven had to travel to Nairobi, about 400Km away to seek treatment. One respondent was very distraught by the time wasted in seeking the right care for her ailing daughter. In particular, he acknowledged that had he gotten the right medical consult in Narok, her daughter's illness would not have progressed to current stage.

The respondent said

> *"I have never encountered so much pain in my life, the thought of seeing my daughter's condition worsen and very little help from the local hospital was unbearable, I wasted a lot of time and resources on medical investigations in Narok"* –**care giver to a teenager with stage IV cancer**

Some of the respondents sought treatment at private facilities, which had more readily available services, but were more costly. Study participants from major cities like Mombasa and Kisumu who needed radiotherapy services were forced to travel to Nairobi due to unavailability of the radiation therapy at regional cancer treatment centers. Unavailability of specialized doctors (oncologists) was a major challenge, with clients waiting for up to three months in the public sector to be seen, get proper diagnosis and start treatment.

In-depth interview revealed important insights with regard to availability of diagnostic services in the public and private sector health services. In the private sector, respondents confirmed that there are specialized laboratories as well as state of the art medical equipment. However, respondents who went to public facilities complained of a shortage of specialists to offer care and proper staging.

".....after I had a tissue sample taken for a swelling in my neck, I was told to come back after two weeks for a report only to be told that further tests on the sample were required.....I ended up paying a lot of money at a private laboratory in Nairobi for the test to be done....it was such a long exhausting experience"- **patient with stage II (b) disease from Mount Kenya region**

4.4.3 Acceptability

Based on the study findings, a majority of respondents (84.5%) strongly agreed that staff at the MP Shah Cancer Treatment Centre were happy to serve them while 2.8% disagreed to this statement (Table 4.5). There was a majority view of about 90% among respondents that they sought treatment services at the facility because of the quality of care provided. This mirrors on the perceived quality of care that the facility provides. When asked whether they can use their NHIF cards for outpatient oncology services at the facility, about 65.7% agreed to this statement while 21.5% disagreed and a further 12.9 % were unsure as shown below.

Table 4.5: Acceptability of Oncology Services

Acceptability	Strongly Disagree %	Disagree %	Maybe %	Agree %	Strongly Agree %
1. I chose a private facility (MP Shah) because of quality of care and service times	4.2	1.4	2.8	15.5	76.1
2. Staff at the cancer facility were happy to serve me		2.8	2.8	9.9	84.5
3.I can use my NHIF card for cancer screening and investigations at the facility	18.6	2.9	12.9	20.0	45.7

To assess acceptability in terms of quality of services offered at the facility, the respondents were further asked whether they could have sought treatment at the MP Shah Hospital's Cancer Treatment Centre without the NHIF Package. A resounding majority of the participants (70%) said no.

Participants were further asked about the greatest impact the package had on their cancer management. Majority of the respondents mentioned financial security as a greatest reprieve the package had on their cancer care. For one of the participants, the choice of seeking cancer care at a premium facility was like a gift from heaven. Said the participant:

> *".....When my sister told me about NHIF paying for cancer treatment at MP Shah Hospital, I thought she implied treatment services for civil servants and not for a tailor like me.....I was happy when I had my first chemotherapy at a big hospital like MP Shah through NHIF...it felt like gift from heaven!"*- **Patient on neo-adjuvant chemotherapy from Kibera slums**

Majority of the respondents were satisfied with the staff working at the cancer Centre. They mentioned that they were friendly, caring and knowledgeable. One participant mentioned how her nurse was accommodative of her needs and showed empathy to her medical situation.

> *"...She* (nurse) *was a gift from God, she was caring, always listened to my concerns and I could call her up even when I was home to discuss any issue regarding my treatment"*- **patient with stage II disease**

4.5 Level of Awareness of NHIF Cancer Benefit Package

Respondents were asked if they were enrolled in NHIF at the time of the study. Almost all (99%) had membership of the NHIF. However, when the same respondents were asked if they were aware of the NHIF scheme on cancer care, majority of them (63%) were conversant with the scheme (Fig 4.1).Even though 10% reported that they were not aware of the NHIF premiums and payment mechanisms, nearly all respondents (96%) were aware of the registration procedures. Overall, despite an increased awareness of NHIF registration

procedures and enrollment options, more than a quarter of study participants were unaware of the scheme on cancer care.

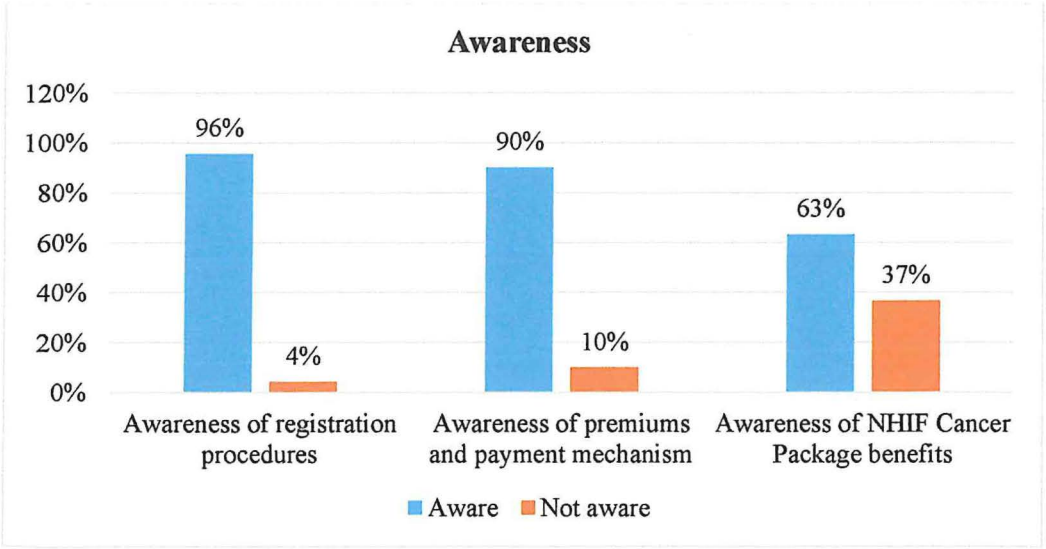

Figure 4.1: Awareness of NHIF Products and Services

To find out how the level of awareness of NHIF Cancer Benefit Package influences accessibility to oncology services, a cross tabulation was done as shown in Table 4.6 below. As shown below, 63% of respondents were aware of the benefits of NHIF Cancer Package. Of the 63% who were aware, 13% said they could afford to pay for their cancer care very often, compared to only 4.3% of those who were not aware. On the other hand, acceptability of the NHIF Cancer Package was highly influenced by the level of awareness of NHIF registration and procedures at 95.8% where 83.1% of these respondents agreed or strongly agreed that the package was acceptable at the facility (Table 4.6).

Table 4.6: Cross-Tabulation of Level of Awareness and Access of Cancer Services

		Affordability				Total
		Rarely	Sometimes	Often	Very often	
Awareness of NHIF cancer package benefits	Aware	5.70%	12.90%	31.40%	12.90%	62.90%
	Not aware		7.10%	25.70%	4.30%	37.10%
Total		5.70%	20.00%	57.10%	17.10%	100.00%
		Acceptability				Total
		Disagree	Maybe	Agree	Strongly agree	
Awareness of registration procedures	Aware	5.60%	7.00%	28.20%	54.90%	95.80%
	Not aware			1.40%	2.80%	4.20%
Total		5.60%	7.00%	29.60%	57.70%	100.00%

The qualitative component on NHIF and how its products influences payment for cancer treatment, a bigger proportion of those interviewed had some knowledge of the NHIF Cancer Package. Most of the participants mentioned that they first heard of the scheme through the media while some got the information from the hospital staff. As most health facilities had NHIF registration desks, this was the most common reported channel for registration by the respondents.

However, the flexibility and ease of online registration platform was preferred over the manual procedure as one respondent said:

> *"I registered my mother to the NHIF scheme through the online platform..... I found it easier as she was far in the rural areas.....I was able to save valuable time"*- **care giver to a patient on palliative radiotherapy**

Surprisingly, even though majority of respondents were aware of the premium payments for each category as well as availability of easier payment channels like mobile banking and Mpesa, a significant number of participants were unaware of existence of a penalty for late payment of monthly premium. One of the respondents had to wait for two months for his dormant NHIF account to be reactivated so as to access the benefits. The participant said:

> *"I was shocked when I was told I cannot use my NHIF card for my screening investigations due to default on monthly contributions....I ended up paying out of pocket for the investigations...."*-**newly diagnosed patient on his first cycle chemotherapy**

The overall responses from the participants on the awareness of cancer package by NHIF brought out an important insight about the general perception of NHIF as a social health insurance provider. A majority of respondents mentioned that they initially thought that NHIF only covered senior civil servants for cancer care at the premium facilities like the MP Shah Hospital. To some participants, they mentioned NHIF only covered for daily bed charges while very few respondents were aware that they could pay for outpatient services like blood investigations and imaging using their NHIF card.

Even though most participants were aware that NHIF covers for chemotherapy and radiotherapy services, at least five respondents reported that they had used the package for surgical procedures. One of the respondents was particularly thankful that he did not have to sell his parcel of land to pay for his surgery.

The respondent said:

"When I was told I needed urgent surgery, I had insufficient money and the procedure could not wait for a harambee.....I resorted to sale of a prime land but luckily this did not happen... NHIF paid a significant amount of money towards my procedure" **-patient on radiotherapy post-surgery**

However, some of the participants felt that the package did not provide sufficient funds especially for specialized surgical oncology interventions. One of the respondents said:

"My surgery was way above the maximum benefit of Kshs 150,000, and I had to top up three times the amount through a fund raiser (harambee).....but I am grateful for the little amount I got..." **patient on palliative care**

While majority of participants were well aware of cancer treatment services abroad to countries like India, very few respondents mentioned that they were aware that NHIF caters for specialized cancer management abroad up to a certain limit of amount. The few respondents who were aware noted the long bureaucratic process of getting approval from concerned authorities like the Ministry of Health and the Medical Board of Kenya as a deterrent to a successful application.

5 CHAPTER FIVE: DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

The chapter discusses key findings in light of broader literature from other studies. The chapter offers a discussion guided by the objectives of the study.

5.1 Uptake and Utilization of NHIF Cancer Benefit Package

From the findings, health insurance uptake was higher among respondents during treatment compared to before treatment. This can be explained as a health seeking behavior coping strategy among cancer patients to shield them from catastrophic expenditure. (Farmer et al., 2010) in their study on expansion of cancer care and control in low and middle income countries noted that several middle income countries included cancer treatment in national health insurance coverage with a focus on people living in poverty. A bigger proportion of the respondents admitted at the facility used their NHIF card to pay the hospital bill while only 10% used other type of health insurance.

This finding is inconsistent with previous studies done in Kenya by (Mostert et al., 2014) on healthcare financing among cancer patients that showed 23% had NHIF and 77% had no NHIF. The implication of this finding is that there is an overall acceptance among cancer patients to utilize health insurance as a means to cushion them from the associated financial burden. Surprisingly, only 36.7% of respondents relied on other out- of- pocket methods including sale of family assets, family savings, and fundraisings and borrowing to pay their hospital bill. The findings are generally in agreement with the observation of (Leive & Xu, 2008) that household's out- of- pocket healthcare expenditure in Kenya was 44.8% and the households were not protected from health shocks. Overreliance on out- of- pocket payments pushes poor households with low incomes to impoverishment and as such, they tend to postpone urgent medical attention. This in turn leads to delayed treatment and poor clinical outcomes among the affected patients.

5.2 Access to Oncology Services

5.2.1 Affordability

The key issues with regard to affordability of oncology services included direct costs due to illness, income losses due to long absence from work, sustainability of treatment and job losses due to ill health. From the study, more than half of the respondents experienced catastrophic costs; i.e. costs above 40% of their income. This finding mirrors on similar studies done in Kenya by (Barasa et al., 2017)(Kiplagat & Muriithi, 2013) and (Chuma & Maina, 2012) .A critical review of studies carried out in LMICs that focused on economic consequences for households paying for healthcare by (McIntyre, Thiede, Dahlgren, & Whitehead, 2006) showed that that there was growing evidence of households being pushed into poverty or forced into deeper poverty when faced with substantial medical expenses, especially when combined with loss of household income due to ill health. Consequentially, this burden is made worse by the rising number of NCDs in LMIC like cancer which imposes high and regressive cost burdens on patients and their families.

From the study, coping mechanisms by cancer patients to mitigate catastrophic expenditure included donations in kind, sale of household assets and loans. These findings conform to a similar study done in rural China by Zhang, Tang, Jun, & Whitehead (2007) where they looked at different socio-economic groups and their persistent problems of access to appropriate affordable treatment. In this study, 64% of breast cancer patients had taken loans to cope with treatment costs and another 54% sold their assets to finance their treatment.

5.2.2 Availability

The main issues with regard to availability include the following: distance to facilities, lack of timely follow up, lack of specialists, lack of equipment and weak referral systems. This findings conform with a recent study done in Kenya by (Makau-Barasa et al., 2017) on improving access to cancer testing and treatment in Kenya. The potential consequence of this is the potential catastrophic costs as well as the high morbidity associated with late diagnosis of cancer.

A number of authors including (de-Graft Aikins et al., 2010) and (Wabinga et al., 2014) have cited these issues with regard to availability of health services. (Wabinga et al., 2014) in their study on cancer survival in Uganda noted that the poor prognosis of Ugandan patients was as a result of a lack of access to early diagnosis and treatment options in the country. It was also evident that some cancer patients did not know where to go for cancer treatment because of lack of adequate skilled personnel like oncologists and pathologists thus hindering the accessibility of cancer treatment services. The findings are in line with(de-Graft Aikins et al., 2010) who stated that the unavailability of health services in African countries and other developing countries is due to underfunding and under resourcing of their health systems.

5.2.3 Acceptability

The key issues with regard to acceptability of services are perceptions regarding utilization of the NHIF Cancer Benefit Package, quality of services and institutional support. The findings indicated that the respondent's perceptions of oncology services offered at the facility are of high quality. An important insight from the study was the acknowledgement by respondents that the NHIF Cancer Package has contributed to equity in financing cancer care in Kenya regardless of patients' socio-economic status. The implication of this is that cancer patients have access to quality services to ensure timely diagnosis and improve the overall prognosis of the disease. This finding is consistent with previous studies by (Makau-Barasa et al., 2017) which showed that improving health insurance for patients with cancer in Kenya will improve access to oncology services among the patients.

5.3 Level of Awareness

The study established that almost all respondents had enrolled in NHIF. However, the level of enrollment has not translated into higher utilization of the NHIF Cancer Benefit Package with slightly more than half of the respondents aware of this benefit. From the study, most respondents got information about the NHIF Cancer Package through radio as well as from hospital staff especially doctors and nurses. This finding implies that in its awareness campaigns, NHIF should consider using radio as the preferred media as well as engaging hospital staff through health education forums like cancer symposiums to strengthen the awareness.

Poor understanding of the insurance concept is evident in the study where majority of respondents were unaware of a penalty charged and a two month waiting period to access the benefits for defaulting on monthly premiums. It is possible that the respondents were confusing insurance scheme with the normal savings plans. The finding agrees with similar study in Ghana by (Ackah & Owusu, 2012) who also found that knowledge of basic insurance concepts was lacking, and potential clients were unable to answer questions related to insurance products and premium. It is very clear from the study that there is need for simple and clear messages on the NHIF Cancer Package, delivered using the most used communication media and engage the relevant stakeholders to promote access to oncology services.

5.4 Conclusion

The study aimed to achieve two objectives. The first objective aimed to assess the NHIF Cancer Benefit Package's contribution towards promoting access to oncology services at MP Shah Hospital. The study established that the package has increased acceptability of oncology services at the facility with majority of study participants acknowledging the role the NHIF through the package has played in addressing equity in financing cancer care in Kenya.

The study sought to explore reasons underlying the insurance coverage and utilization patterns among cancer patients at the facility. There was an overall acceptance among cancer patients to utilize health insurance as a means to cushion them from the associated financial burden. The findings also indicated a poor understanding of the insurance concept where majority of respondents were unaware of coverage benefits as well as penalty charges levied on payment default.

5.5 Limitations of the Study

There were data limitations in getting qualitative data as the interviews conducted were influenced by respondent's recollection bias and/or the temptation to offer socially desirable answers. This is particularly true given the potentially sensitive nature of subject discussed in the interview (medical confidentiality) and the possibility of patients perceiving that their health seeking behavior were under scrutiny. However, data saturation was achieved within the interview study, as sampling was under the control of the researcher.

The study site in one hospital might not reflect entirely the uptake and utilization pattern of the NHIF cancer benefit package among cancer patients in Nairobi County. There is a need for a larger study to capture these dynamics across different demographics.

5.6 Recommendations for Policy

5.6.1 NHIF Level

The National Hospital Insurance Fund (NHIF) which has been identified as the institution to be used to implement UHC in Kenya's needs to improve in the following areas: First, there is need to increase the level of awareness of the NHIF Cancer Benefit Package among cancer patients. As established in the study, this can be through extended media campaigns with preferable use of vernacular media to extend information coverage among the rural population.

Secondly, the NHIF products and services should be easily accessible with a comprehensive outline of the expected benefits. This can be enhanced through use of online platforms that provide easier registration process and finally, NHIF should aim to increase coverage in the informal sector. This population is vulnerable to catastrophic expenditure especially in NCDs like cancer. To increase enrollment, NHIF should consider introducing affordable low premiums to target this population.

5.6.2 Government Policy

With devolution of health services to county governments, counties should prioritize the available resources according to the health needs of their population. This includes training and development of healthcare personnel in the field of oncology to ensure access by decentralizing cancer diagnostic and treatment centers.

The county government should also improve financial protection of its citizens by undertaking drives to increase NHIF membership among men and women of all ages. Specifically it should offer financial protection to those with NCDs like cancer and who live below the poverty line by having community health insurance schemes similar to "Aarogysri Healthcare Trust" in Telangana State of India. To conclude, the National Government should consider innovative ways to finance healthcare. This can be through use of dedicated taxes like revenue from each mobile money transactions (MPesa), sin tax on products that causes negative externalities like alcohol and cigarette. This has been shown to be effective in countries like Ghana and Thailand.

5.7 Recommendations for further Research

- A study to determine the extent of adverse selection in enrolment of NHIF Cancer Package should be conducted. This would address concerns on registration of persons who enroll after falling sick, which may negatively affect the claims payout ratios and sustainability of the insurance scheme.
- This study has brought to light the various factors that influence uptake and utilization of NHIF Cancer Benefit Package in Nairobi County. It however focused on one cancer facility, so further studies may be required to target all cancer patients in other treatment centers in Nairobi to understand differences if any, among the Nairobi population.

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APPENDICES

Appendix I: Timeline of Activities

ACTIVITY/TIME	Nov 2017-Jan 2018	February 2018	March 2018	April 2018
Problem Identification & Proposal Development				
Data Collection				
Data Analysis & Presentation				
Report Writing & Presentation				

Appendix II: Research Budget

Item	Quantity	Price(Kshs)	Total Cost
Questionnaires	100	10	1000
Printing and binding Proposal	3	1000	3000
Research Assistants For Survey Administration	2	7000	14,000
Discussions	4	7000	28.000
Data Analysis		10,000	10,000
Printing and binding proposal report	3	2,000	6,000
Miscellaneous		10,000	10,000
Total			KSh 81,000

Appendix III: Introduction Letter

Strathmore University Business School, Strathmore University,
Ole Sangale Road,

P.O Box 59857-00200, Nairobi.

1st February 2018.

Dear respondent,

RE: Research Project Questionnaire

I am a student at Strathmore University Business School, Nairobi pursuing a post-graduate degree in Masters of Business Administration in Healthcare Management. In partial fulfillment of the requirement for the award of the above mentioned Degree, I am required to carry out and submit an academic research on an assessment of the uptake and utilization of the National Hospital Insurance Fund's Cancer Benefit Package at the MP Shah Hospital in Nairobi County.

Kindly assist by allowing the research assistant to take you through the consent form and questionnaire. Should you wish to answer the questionnaire on your own, kindly request the research assistant for the same.

I would like to assure you that this research is purely for academic purposes. Your response will be treated with extreme confidentiality and all responses will be coded into numbers and no one will be individually identified. Only general, statistical and aggregate analysis will be performed on the data. Therefore, no one can trace the results back to the responses of any individual respondent. Thank you for your time and cooperation. Yours faithfully

Dr Gachanja David

Researcher

Appendix IV: Participant Information and Consent Form

AN ASSESSMENT OF UPTAKE AND UTILIZATION OF THE NATIONAL HOSPITAL INSURANCE FUND'S CANCER BENEFIT PACKAGE AT THE MP SHAH HOSPITAL IN NAIROBI COUNTY

SECTION 1: INFORMATION SHEET

Investigator: Dr. Gachanja David

Institutional affiliation: Strathmore Business School (SBS)

SECTION 2: INFORMATION SHEET–THE STUDY

2.1: To assess uptake and utilization of NHIF Cancer Benefit Package at the MP Shah Hospital

2.2: Do I have to take part?

NB: Taking part in this study is entirely optional and the decision rests only with you. If you decide to take part, you will be asked to complete a questionnaire to get information on uptake and utilization of the benefit package. If you are not able to answer all the questions successfully the first time, you may be asked to sit through another informational session after which you may be asked to answer the questions a second time. You are free to decline to take part in the study from this study at any time without giving any reasons.

2.3: Who is eligible to take part in this study?

- Adult cancer patients
- Caregivers of cancer patients authorized to give consent

- Cancer patients of age below 18 years whose guardian(s) assent to participate in the study

2.4: Who is not eligible to take part in this study?

Anyone who doesn't fall in the above (2.3) category

2.5: What will taking part in this study involve for me?

You will be approached by the researcher and requested to take part in the study. If you are satisfied that you fully understand the goals behind this study, you will be asked to sign the informed consent form (this form) and then taken through a questionnaire to complete.

2.6: Are there any risks or dangers in taking part in this study?

There are no risks in taking part in this study. All the information you provide will be treated as confidential and will not be used in any way without your express permission.

2.7: Are there any benefits of taking part in this study?

The information will be used to:

Identify barriers to access and utilization of health insurance (NHIF) among cancer patients as well as coverage and financial risk protection measures taken by cancer patients to mitigate impoverishment. Lastly the study will be of important use for the national government and other stakeholders involved in health service delivery particularly oncology services both at the county and national level.

2.8: What will happen to me if I refuse to take part in this study?

Participation in this study is entirely voluntary. Even if you decide to take part at first but later change your mind, you are free to withdraw at any time without explanation.

2.9: Who will have access to my information during this research?

All research records will be stored in securely locked cabinets. That information may be transcribed into our database but this will be sufficiently encrypted and password protected. Only the people who are closely concerned with this study will have access to your information. All your information will be kept confidential.

2.10: Who can I contact in case I have further questions?

You can contact me, Dr. Gachanja David, at SBS, or by e-mail (davidgachanja88@gmail.com), or by phone (0723 596 598).

You can also contact my supervisor, Dr. Frank Wafula, at the Strathmore Business School, Nairobi, or by e-mail (fwafula@strathmore.edu) or by phone (0722 679 467) If you want to ask someone independent anything about this research please contact:

The Secretary–Strathmore University Institutional Ethics Review Board, P. O. BOX 59857, 00200, Nairobi, email ethicsreview@strathmore.edu Tel number: +254 703 034 37

I, _____, have had the study explained to me. I have understood all that I have read and have had explained to me and had my questions answered satisfactorily. I understand that I can change my mind at any stage. Please tick the boxes that apply to you;

Participation in the research study

☐ I AGREE to take part in this research

I DO NOT AGREE to take part in this research

Storage of information on the completed questionnaire

☐ I AGREE to have my completed questionnaire stored for future data analysis

I DO NOT AGREE to have my completed questionnaire stored for future data

analysis

Participant's Signature_____Date:_____/_____/_____

DD / MM / YEAR

Participant's Name: _____ Time: _____/_____

(Please print name) HR / MN

I, _____ (Name of person taking consent) certify that I have followed the SOP for this study and have explained the study information to the study participant named above, and that s/he has understood the nature and the purpose of the

study and consents to the participation in the study. S/he has been given opportunity to ask questions which have been answered satisfactorily.

Investigator's Signature: _____Date:----------

DD / MM / YEAR Investigator's Name: _____

Time

Appendix V: Questionnaire

Questionnaire for Adult Cancer Patients and Authorized Caregivers

Section A: Background information

Please tick (√) as appropriate

1. Age

   Below 18 ( ) 18-35 ( ) 36 - 45 ( ) 46 - 55 ( ) Above 55 ( )

2. Marital Status

   Married ( ) Divorced ( ) Widowed ( ) Single ( )

3. Education level

   Uneducated ( ) Primary ( ) Secondary ( ) Mid-level college ( ) University ( )

4. Employment Status

   Formally Employed ( ) Self-employed ( ) Unemployed ( ) Retired ( )

5. Payment for Healthcare

   Insured ( ) Uninsured ( )

6. When were you diagnosed with Cancer?

   Below 2 years ( ) 2-5 years ( ) 6-10 years ( ) 11-15 years ( ) above 15 years ( )

7. Did you have any form of health insurance?

   (i) At the time of diagnosis Yes ( )No ()

   (ii) On Treatment (Yes ( ) No ( )

Section B: Uptake and Utilization of Health Insurance:

1: (a) Have you been admitted/planned for cancer treatment for the last 1 year?

Yes [ ] No [ ]

(b) How did you pay the hospital bill?

□ Used NHIF card [ ]

□ used other type of Health Insurance [ ]

□ Used family savings [ ]

□ Borrowed from friends and family [ ]

□ Sold family assets [ ]

□ Harambees [ ]

Others

(specify).....

2. Can you afford to pay the minimum kshs 500 per month for NHIF premium?

YES [ ] NO [ ]

Section C: Level of Awareness of Health Insurance

1. A) Are you enrolled in NHIF?

Yes [ ] No [ ]

b). If you are not enrolled in NHIF, state the reasons behind this.

i. .....

ii. .....

iii. .....

2). The following are statements about NHIF and its products including the Cancer Benefit Package. Please tick (√) whether you are aware or not aware

against each.

	Statement	Aware	Not aware
	Awareness of registration procedures		
1	All Kenyans over 18 years can join NHIF schemes		
2	NHIF card covers one contributor, one spouse and a maximum of five children under 18 years		
3	All NHIF contributors are issued with a photo card after submitting passport		
4	One can register at any NHIF office as well as online		
5	Registration is open to people of all ages		
	Awareness of premiums and payment mechanism		
6	Self-employed/Voluntary contributors pay from Kshs 500 per month		
7	Contributions are paid through M-Pesa or via Mobile banking		
8	Late payment of monthly contributions attract a penalty. A dormant account takes about two months to be active to access services		
	Awareness of NHIF Cancer Package benefits		
9	NHIF Card covers for an enhanced outpatient package for cancer services in both public and private hospitals.		
10	Regardless of the premium amount contributed, all NHIF card holders (active) have access to the enhanced Outpatient benefit package.		
11	NHIF Cancer Package covers for chemotherapy and radiotherapy up to a certain number of sessions as well as surgery at a certain limit.		
12	NHIF Cancer Package covers for specialised treatment abroad to a certain limit and covers for outpatient oncology investigations to to a certain limit.		

Section D – Access to Cancer Care

1) Affordability

[We know that paying for cancer services is very costly. We wanted to know how you

Have been able to cope with the costs]

1. Have you ever missed treatment or any other services related to cancer because

   you could not afford to pay? YES/NO

2. How did you pay for the services? [OOP, Insurance, Donations]

3. If you paid OOP, where did you get money to pay?

   Salary/Earnings ( ) Savings ( ) Sale of Assets ( ) Loan ( )

4. Did you stop working/doing business when you were receiving treatment?

   Yes ( ) No ( )

   If yes: How much income were you losing per month?

   <20,000ksh ( ) 21,000-50,000ksh ( ) >50,000ksh ( )

5. Please mark "(✓)" in the box that corresponds best to your answer.

Statement: On a scale of 1-5 where 1= Never, 2=Rarely, 3= Sometimes, 4= Often, 5= Very often. Please rate the following statements in regards to how the NHIF Cancer Benefit Package has influenced accessibility to oncology services	**1**	**2**	**3**	**4**	**5**
Affordability					
1. I am worried about how I would sustain paying for my treatment					
2.Cost of treatment usually is more than 40% of my household monthly expenditure					
3. I am able to attend to other basic needs like food, education etc.					

4 I still need financial help with the medication I am on						
Availability *1 2 3 4 5* *Never Rarely Sometimes Often Very often*	1	2	3	4		
1. I was able to get my treatment at the nearest cancer facility						
2. I did not have to travel far from home to get my treatment						
3. The facility had the equipment and drugs to ensure proper treatment						
4.I did not wait for more than a month to commence my prescribed treatment						
Acceptability *1 2 3 4 5* *Strongly Disagree Disagree Maybe Agree Strongly Agree*	1	2	3	4	5	
1. I chose a private facility (MP Shah) because of quality of care and service times						
2. Staff at the cancer facility were happy to serve me						
3.I can use my NHIF card for cancer screening and investigations at the facility						

Appendix VI: Topic Guide for Interview

Section (A) Challenges on Access to Cancer Care

a) What financial challenges have you experienced in seeking cancer care?

b) What alternative coping strategies/mechanisms did you address on (a) above?

c) Did you at any time sell household or individual assets to cater for (b) above?

d) Aside from finance, what other challenges did you face in seeking cancer care?

Section B- NHIF Cancer Benefit Package.

a) Are you aware of this initiative? YES ( ) N0 ( )

If yes, how did you know about it.....

b) What greatest impact has the introduction of this package had on your cancer management?

c) Do you think that without this package you could have come for treatment at the MP Shah Hospital?

d) What aspect of the NHIF Cancer benefit package has been the most effective as compared to other forms of healthcare payment/insurance?

e) In your own opinion, do you think that the NHIF Cancer Package has addressed inequity in financing of cancer services where due to costs the poor suffers?

Thank you for your time.

NAME OF INTERVIEWER.....

DATE: .....

Appendix VII: Ethical Approval Letter

Strathmore UNIVERSITY

9th February 2018 SU-IRB 0165/18

Dr David Gachanja Kamau
P.O Box 73267 00200
Nairobi
Kenya

Email: davidgachanja88@gmail.com

Dear Dr Kamau,

REF **Student ID:** MBA-HCM/94103/16 **Protocol ID:** SU-IRB 0165/18
An Assessment Of The Uptake And Utilization Of The National Hospital Insurance Fund's Cancer Benefit Package At The Mp Shah Hospital In Nairobi

We acknowledge receipt of your application documents to the Strathmore University Institutional Ethics Review Committee (SU-IERC) which includes:

1. Study Proposal dated 22nd January 2018
2. Participant Information and Consent form dated 6th February 2018
3. Study Questionnaire dated 22nd January 2018
4. Study budget
5. CV

The committee has reviewed your application, and your study *"An Assessment of the Uptake and Utilization of the National Hospital Insurance Fund's Cancer Benefit Package at the MP Shah Hospital in Nairobi"* has been granted **approval**.

This approval is valid for one year beginning **9th February 2018** until **8th February 2019.**

In case the study extends beyond one year, you are required to seek an extension of the Ethics approval prior to its expiry. You are required to submit any proposed changes to this proposal to SU-IERC for review and approval prior to implementation of any change.

SU-IERC should be notified when your study is complete.

Thank you

Sincerely,

Amina Salim
Regulatory Affairs Fellow

STRATHMORE UNIVERSITY APPROVED INSTITUTIONAL ETHICS REVIEW COMMITTEE

Appendix VIII: IRB Approval Letter

HCG CCK
CANCER CENTRE

INSTITUITION ETHICAL REVIEW BOARD

Consent For MININAL RISK Human Research Subjects

Investigator: DAVID GACHANJA KAMAU

Approval Date:01 March 18

Expiry Date: 1st May 2018

SU-IRB 00165-18 Approval letter received expiring 8th Feb 2019.

FOR QUESTIONS ABOUT THE STUDY ,CONTACT DR ADARSH CHANDRAMOLESWAR, CO-HCGCCK

STUDY DESCRIPTION: Study is aimed at assessing the uptake and utilization of the National Hospital Insurance Fund's Cancer Benefit Package at the MP Shah Hospital

DATA COLLECTION FOR RESEARCH

He is permitted to collect data available from CCK records wing, since the it is retrospective study no risks are involved.

The data collected shall only be used for Research purposes only

The results from the data collected from the instituition shall only be used for intended research purposes only

Upon the expiry of data collection period , further application can be made

Cancer Care Kenya
P. O. BOX 39173-00623
PARKLANDS
NAIROBI

8-3-18