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Determinants of uptake of National Hospital Insurance Fund (NHIF) membership among motorcycle riders in Kakamega County.

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DETERMINANTS OF UPTAKE OF NATIONAL HOSPITAL INSURANCE FUND (NHIF) MEMBERSHIP AMONG MOTORCYCLE RIDERS IN KAKAMEGA COUNTY

BY

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DECLARATION AND APPROVAL

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

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May 2018

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ABSTRACT

Health insurance is important in mitigating the financial risks associated with getting ill. Ill ness is associated with loss of productivity as one recuperates and loss of resources that are spent on paying for health care. Prolonged illness may also lead to loss of a means of livelihood if one is incapacitated for one reason or another. Health insurance thus plays a big role in offering financial risk protection and reduces risk of impoverishment due to catastrophic health expenditure arising from sickness or accidents. There is a great push towards prepayments for healthcare. Health insurance being a form of prepayment that needs a lot more support from government as a regulator and as a custodian of social welfare. Use of motorcycle for transport is a phenomenon that is quite prominent in rural and urban Kenya because of its convenience and affordability. Motorcycle industry employs a big number of youths and adults who earn a living by provide transport for both people and goods. The industry has been plagued by a great number of motorcycle accidents leading to a great strain in our health sector through long periods of treatment and congestion of the orthopaedic wards in all major hospitals in the country. The many accidents on our roads are a pointer that motorcycle riding is a high-risk undertaking. This coupled with the blatant abuse of the Highway Code by motorists puts many riders in a precarious position everyday as the search for a living. The study sought to understand the reasons behind the low enrolment into NHIF our most prominent insurer who provide an affordable and attractive enhance package that we believe would help mitigate the risks faced. The study setting is in Kakamega central sub county where a total of 140 boda boda riders were interviewed. A cross-sectional survey study setup was chosen and systematic sampling done. The data collection tool used was a semi structured questionnaire that data was cleaned and coded for analysis using STATA version 15. In the findings there was 50 % enrolment in the scheme by the boda boda rider. The study recommends enhancing NHIF forums to improve information and awareness, review of penalties for missed premium contributions, quality improvement programs as well as overall health system strengthening through transformation of NHIF into a social insurance to help Kenya achieve UHC.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

UHC -Universal Health Coverage

WHO -World Health Organization

OPP -Out of Pocket Payments

NHIF -National Hospital Insurance Fund

MOH -Ministry Of Health

NHA -National Health Accounts

OECD-Organization for Economic Development Countries

SHI -Social Health Insurance

CBHI -Community Based Health Insurance

LMICS-Low and Middle-Income Countries

NARC-National Rainbow Coalition

WTO -World Trade Organization

ILO -International Labour Organization

HSSF -Health Sector Services Fund

HIV/AIDS-Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome

SPSS -Statistical Package for Social Sciences

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DEDICATION

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1 CHAPTER ONE: INTRODUCTION

1.1 1.2 Background to the Study

About 30% of Kenya's health expenditure is financed through out of pocket (OOP) payments for services at the point of use (MOH, 2014). The burden of OOP payments for health is usually heaviest on the poor and generally exacerbates poverty (van Doorslaer et al., 2006). This mode of payment also hinders access to health services and is associated with worse health outcomes. It is grossly inequitable leading to large sections of the population being excluded from timely and quality health care (Xu et al., 2007). Expanding access to health care in Kenya particularly for those outside formal employment and the poor to achieve universal health coverage (UHC) is therefore an important objective of the Kenyan health sector strategy (MOH, 2005),(Kimani et al, 2014).

Health financing strategies are central to achieving UHC. The key objectives of UHC include financial risk protection, quality healthcare and health access for all. Countries are being encouraged to come up with innovative ways of collecting revenue and pooling funds through prepayments including social insurance contributions, general tax revenue, private insurance and mixed schemes. Social health insurance is one approach that shows great promise in pooling of resources for health care financing (WHO 2005). However, health insurance ownership in Kenya is about 25% in the form of public, private and community-based health insurance scheme (MOH, 2016)

Many low- and middle-income countries (LMIC) such as Kenya are faced with the hard task of incorporating the informal sector in pooling of funds for health care. These countries have weak tax collection systems and are unable to net in contributions from informal sector through taxes (Hsu et al, 2015). The informal sector in Kenya is diverse incorporating many sectors in the economy ranging from agriculture to non-agricultural artisan and manufacturing work as well as various service industries. One such service industry is the motor cycle transport industry also known as *boda-boda*. This a visible and important employer of many youths in towns and rural areas and contribute about KSh 400

million daily to the economy (Omondi, 2016). The boda-boda operators offer a quick and convenient mode of transport for both people and goods in rural and urban areas.

A common denominator in the informal sector at large is poor up take of health insurance. Several barriers to health insurance uptake among the informal sector workers have been identified; for example, Adebayo et al (2015) found that lack of funds, poor quality of care and lack of trust contributed to the low uptake of community-based health insurance schemes. The need for potential beneficiaries of social health insurance to comprehend and accept prepayments as a mode of health care financing calls for innovative ways of communicating importance of prepayments as a key strategy in implementation and expanding social health insurance (Adewole et al, 2017).

Strategies in raising awareness, insurance design features and coming up with differentiated and affordable contribution rates are important in extending health insurance coverage to the informal sector (Mathauer et al, 2008). Moreover, research into people's preferences emphasizes the need to look beyond demographic and income factors to understand people's reasoning and decision making (Monheit &Vistness, 2004). Other studies have tried to assess willingness and ability to pay for health insurance (Osei-Akoto, 2003; Dror, 2006). A lot still needs to be done to better understand determinants of enrolling in a health insurance scheme that better addresses the needs of high-risk populations such as boda-boda operators.

1.2 National Hospital Insurance Fund

National hospital insurance fund is a state parastatal that was founded in the year 1966 as a department under the ministry of health. The act of parliament that set up this fund has undergone reviews over the years, the current act governing operations is act number 9 of 1998. The transformation from a department in the ministry to a state corporation was aimed at improving efficiency and effectiveness in covering its mandate. The core mandate of NHIF is to offer medical insurance to all its members and declared dependents. Membership is open to all Kenyans above the age of 18 years. It is important to note that NHIF membership is compulsory for all Kenyans employed in the formal sector whereas it is voluntary for those employed in the informal sector.

NHIFs mission is to provide accessible, affordable, sustainable, equitable. and quality social health insurance through optimal utilization of resources to the satisfaction of all stakeholders. NHIF has continually worked at improving the range of services it covers for its members, currently it covers outpatient visits, inpatient services, surgical packages, dialysis, kidney transplant services, dental, and optical services. These broad range of services are in keeping with its mission to cover its members fully. It further offers to pay for services not found locally such as some specific cancers whose treatment may not be available within the country.

1.3 Problem Statement

Low uptake of health insurance in the informal sector creates a challenge in achieving universal health coverage. There is a need for an in-depth scrutiny of barriers to social health insurance uptake in order to design interventions that will increase health insurance coverage. For the boda-boda, this is a high-risk business and the operators understand only too well the risks involved with lack of insurance coverage. Lack of health insurance exposes individuals and households to OOP payments which have negative social consequences including borrowing and debt accumulation, use of savings and risk of impoverishment (Chuma & Maina, 2012; van Doorslaer et al., 2006, 2007; Wagstaff & Van Doorslaer, 2003).

For a high risk undertaking such as the boda-boda business, it is important to understand the key reasons behind their lack of participation in health insurance schemes. Notably, without health insurance, boda-boda riders will continue to put their households and those of their passengers at the risk of catastrophic health costs and impoverishment. A number of studies such as (Mathaeur, 2008) (Odeyemi, 2014) and (Asenso-Okyere, 2007) have identified barriers to uptake of health insurance among informal sector groups such as the boda-boda transport these include benefit package offered, quality of services offered, assess to alternatives to health insurance and household characteristics.

However, few of these studies have endeavoured to study these factors in-depth and offer statistical measurements that would lead to better-targeted policy interventions. Determinants of enrolment and retention into a health insurance scheme including design

factors such as benefit package, quality of services, awareness creation, and availability of insurance. The determinants include personal characteristics, alternatives to insurance such as self-help groups as well as community and market factors. They require further analysis involving statistical measurement to allow better-targeted policy interventions to improve enrolment, retention, and progress toward UHC.

1.4 Research Objectives

1.4.1 General objective

To contribute to the body of evidence on barriers towards development of universal health coverage system in Kenya

1.4.2 Specific Objectives

1. To analyse the key factors that determine NHIF enrolment and retention of boda-boda riders;
2. To recommend interventions that would support enrolment and retention in the NHIF and contribute to progress toward UHC.

1.5 Significance of the Study

The study's findings will be used to understand the barriers to uptake of health insurance and suggest possible ways of addressing them moreover the findings can be generalized to the wider informal sector. The study would further highlight necessary strategies to improve health insurance coverage and demand creation. The findings can be used in designing a more acceptable mode of prepayments for both private insurances, community-based health insurance as well as improving our national hospital insurance fund (NHIF) in expanding coverage in the informal sector. Research gaps would also be created that research institutions would fill.

1.6 Scope of the Study

The aim of the study is to focus on the motor-cycle riders engaged in the transport business in Kakamega central sub County of Kakamega County in western Kenya with an aim of

understanding the factors influencing their uptake of NHIF. Kakamega central has a great mix of centres that are both urban and semirural thus giving us a more representative sample population.

2 CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

An electronic search of databases and review of published literature in relevant health journals and related reports from governments and development partner reports was conducted to update current knowledge and research activities in health care financing for universal health coverage in LMIC. An analysis on the research methodology and study settings was done to get an understanding of the evidence in similar settings to Kenya. The key words used in the search were universal health care, informal sector, and low middle-income countries

2.2 Health Care Financing Approaches

2.2.1 Funding Through General Government Revenues (Tax Funding)

There is evidence that mandatory prepayments from general tax revenue as well as mandatory health insurance are central in health care financing for UHC (McIntyre, 2012). These sources have to be substantial in order to raise enough funds needed to adequately cover the population in line with UHC goals and objectives. The role of voluntary health insurance in the above countries is clearly defined and is complementary to the main financing approach taken (Sekhri, 2006)

There are two main sources in generating government revenues: direct and indirect taxes (WHO, 2004). Direct taxes for example income tax revenues tend to be progressive whereas payroll taxes for health tend to be proportionate as they are a percentage of one's salary (Mills et al., 2012). Income taxes are progressive when, in real terms, the higher income individuals pay more than the lower income individuals do. Ceilings on payroll taxes tend to make the contributions regressive as individuals who earn above the ceilings pay a smaller proportion of their salary as contributions towards health (Mills et al., 2012). Indirect taxes however, tend to be regressive unless a government comes up with specific policies that target 'luxury' goods. Value added tax becomes the most difficult to target as it may adversely affect the poor by raising the cost of living thereby negating the benefits from increased revenue (Mills et al., 2012)

In LMIC, the challenge to generation of more revenue and expanding coverage becomes the large informal sectors found in these countries. Various types of innovative taxes and policies are needed to address this challenge. In addition, there is need for equity in financing and resource distribution in the formulation of the health financing policies. A study by Mills et al. (2012) looking at Ghana, Tanzania and South Africa found that indirect taxes were progressive in Ghana and Tanzania but regressive in South Africa. Direct taxes in all the three countries were progressive. The conclusion from the study was that overall health care financing was progressive in all the three countries. Of interest was that out of pocket payments were regressive in all the three countries being part of evidence of regressivity of out of pocket payments for health.

2.2.2 Household Out Of Pocket Payments

There is overwhelming evidence on the negative consequences of OOP payments as a form of health care financing (Chuma, Gilson, & Molyneux, 2007; Chuma & Okungu, 2011; Mwabu & Mwangi, 1986; Wagstaff & Van Doorslaer, 2003; Xu et al., 2003, 2006). It does not discriminate on individual's financial status as they are all affected adversely. OOP payments are impoverishing as they can lead to catastrophic health expenditure when an adverse health event occurs. User fees paid by patients at the point of use of health services have been shown to lead to a reduction in utilization of health services and postponement of treatment (Meessen et al, 2006),(Xu et al., 2006), (Chuma, Gilson, & Molyneux, 2007). Families and households are pushed further into poverty by this mode of payment for health care (McIntyre, Thiede, Dahlgren, & Whitehead, 2006). Ill health can also lead to loss of household income if it affects the bread winner in a family. A survey in eighty nine countries covering 89 percent of the world's population showed that over 150 million people suffer from financial catastrophe through paying for health services (Xu et al., 2007). It further showed that prepayments for health protect households and individuals from financial catastrophe. About 1.48 million Kenyans are pushed below national poverty line by health care expenditure (Chuma & Maina, 2012). There is need for formulation of alternative health financing strategies that protect the poor and thus break the vicious cycle of poverty and ill health (Whitehead et al, 2001) and further offer financial risk protection (Chuma & Maina, 2012). Policy makers have been urged to prioritize extension of

prepayments to the vulnerable members of the society such as the poor, elderly, those suffering from chronic ailments and those living in marginalized areas as they are the worst hit by catastrophic expenditure.

2.3 Social Insurance Contributions (Social Health Insurance)

Social health insurance aims at protecting everyone particularly the poor from financial risk that comes from ill health and having to pay for health care out of pocket. The main challenge in social insurance is inclusion of everyone in order for the social insurance scheme to enjoy cross subsidies between the rich and the poor as well as the healthy and the sick (Goudge et al., 2012)

There is a push towards prepayments for health care as a strategy in health care financing that provides financial risk protection to the poor. However, there have been quite some debate about the feasibility of SHI as the primary strategy to collect revenue and finance UHC in many LMIC. In the Philippines, SHI has experienced some level of success. A few factors have been attributed to the success. The factors include the need to have aligned societal values and goals in support. Additionally, treating SHI as a financing institution so that economic conditions should not be a deterrent to formation of SHI as it can in fact spur economic growth is essential. Conversely, the need to merge community based health insurance schemes into SHI and improvement in quality health care and improved physical access for health facilities (Obermann et al, 2006). Rwanda's mutuelles have been a success in Rwanda's journey towards universal health coverage and financial risk protection and show that even in the poorest settings community based health insurance can be used as a great tool in achieving UHC (Lu et al., 2012).

In conclusion, it is important to note the advantages of getting contributions from the informal sector with or without partial subsidies; creates a sense of ownership, empowers contributors to demand for quality services and does not encourage informality that leads to avoidance of paying contributions because one belongs to the informal sector. The downside of a contributory system is that contributions can be a barrier to enrolment thus limiting coverage as well as the costs of identifying those able to contribute and setting the amounts to be paid.

2.4 Community Based Health Insurance Schemes

A systematic analysis of factors affecting voluntary uptake of community based health insurance (CBHI) done in LMIC showed that enablers for enrollment include knowledge and understanding of health insurance and CBHI, quality of health care and scheme management(Adebayo et al., 2015). Barriers noted were inappropriate benefits package, cultural beliefs, affordability, distance to health care facility, lack of legal and policy frameworks to support CBHIs and some stringent rules of some CBHIs(Adebayo et al., 2014). Ghana and Rwanda have had successful CBHIs which have largely been associated with effective government control and support coupled with intensive implementation programs (Odeyemi, 2014).

The challenges of CBHIs as a health care financing strategy have been largely due to the scale of the programs as well as the tendency of the schemes not to cover the very poor (Jakab & Krishnan, 2001; Lahkar & Sundaram-Stukel, 2010). They are voluntary in nature thus leaving out the poor and indigent who are not able to afford the premiums needed. The resources raised by CBHIs are not enough to offer the members a benefit package that can protect them from financial risk. Rwanda is frequently referred as a success in voluntary CBHIs but is plagued by the inability of the group to offer financial risk protection through providing a benefit package that has enough depth (Mills, 2014). CBHIs are thus limited in their ability to pool resources and get purchasing contracts in their favour that would normally come from larger scale of operations afforded through social insurance or through private insurance.

2.5 Private for Profit Premium Contributions

Private health insurance is increasingly playing a key role in LMIC thanks to the increase in employer provided health plans for employees. It is therefore becoming increasingly important to address their role in the achievement of universal health coverage goals and objectives. Private health insurance provided by employers is attracting a lot of attention as more and more potential employees look at it as a key employment benefit that is crucial for their wellbeing(O'Brien, 2003).

In developing countries there is large OOP spending on health (van Doorslaer et al., 2006) with its attendant ill effects of impoverishment due to catastrophic health expenditure and delay in seeking treatment. Private insurance therefore helps household to be able to raise funds for health care through prepayments and thus providing some financial risk protection. This is important as government spending on health is still low in developing countries that also have large informal sectors that are difficult to target through social insurance contributions for health.

Private health insurance elicits thoughts of inequity and elitist health care for the rich thus at times may be ignored by some policy makers(Sekhri & Savedoff, 2005). It is further associated with cost escalation of health care. It indeed can lead to the situations its mention at times conjures if it is not regulated in a way to serve the interests of the majority. The distinction between private health insurance and public health insurance is often exaggerated as well regulated private health insurance shares many features with social insurance. Countries that started out with a strong private health insurance backgrounds were later able to develop good social insurance structures growing from their experience with private health insurance(Sekhri& Savedoff, 2005). Private health insurance cannot thus be ignored but continually regulated with an aim of getting the best out of it in terms of increasing both the breadth and depth of health insurance coverage and access. Private health insurance complements public insurance schemes in well-developed health care financing strategies (Sekhri & Savedoff, 2005).

A study by Odeyemi (2013) examining countries with strong private health insurance such as United States, Netherlands, Australia and Latvia showed that uptake is influenced by age, income, education, health care system typology and the incentives or disincentives put in place by the government. Its effect on equity depends on the kind of role private health insurance plays within the health care system. The Kenyan government favours financing UHC through social contributions; however, this has faced challenges in settings with large informal sectors.

2.6 Challenges in Covering the Informal Sector in LMIC

Low and middle income countries are faced with great challenges stemming from weak tax collection systems that do not net in the informal sector thus leading to constrained fiscal space and underfunding of health care systems in an environment of rapid population growth (Hsu et al., 2015). According to the ILO and WTO report of 2009 about 65% of the working population in LMICs work in the informal sector. The population structure of these countries is bottom heavy meaning a big proportion of the population is depending on a few who are gainfully employed or able to work and fend for their families. The poor are disproportionately vulnerable to diseases as well as the most likely to be hard hit by catastrophic health expenditure due to acute illnesses or chronic conditions. LMICs have very low prepayments Bitran, (2014) meaning that most of the population depends on OOP to access health care which potentially lead to catastrophic expenditure and impoverishment. It is therefore important that innovative efforts are provided to increase health coverage in order to achieve universal health coverage goals and objectives.

Strategies of raising funds for health care in LMICs should be guided by each country specific context and policy objectives to be met. Whether the primary approach is social insurance contributions (contributory approach) or general tax revenues (non-contributory approach), each has its benefits and its challenges. The contributory approach eases the burden on the tax base and is more politically acceptable to the government and workers as well as fostering solidarity and shared understanding on costs of health care(Bonfert et al, 2015). Its main challenges include low coverage due to contributions being a barrier to enrollment, significant transaction costs on enrollment, identification of populations to be given subsidies, renewing, collecting contributions and tailoring these to fit the different people targeted. The non-contributory approach essentially means funds from general tax revenue being set aside for health care. Its biggest advantage is that it leads high coverage and has less administrative costs compared to the contributory approach (Okungu et al, 2017). The downsides of these approach is the tax burden becoming high unless the tax base is spread out to the non-poor informal sector. Additionally, a greater need to have the right political climate to allow allocation of taxes to cover the non-poor in the informal sector while the risk of the informal sector growing as people leave formal jobs to enjoy

benefits of informal sector are equally challenging. Similarly, the pressure on the fiscal space and the need to continually lobbying for health budgets that can sustain these financing approach as per Bonfert et al (2015)is a challenge.

Identification and enrollment of informal sector workers who are able to contribute money into a coverage scheme is great challenge. The informal sector is heterogeneous thus, efforts to identify them and characterize them is time consuming and needs innovative ways of identification. Enrollment can be either voluntary or mandatory. Mandatory enrollment has been found to be more efficient as well as generating enough resources for coverage (Kwon, 2009). The cross subsidies that are generated from mandatory enrollment are through reduction in adverse selection as healthy people are enrolled as opposed to voluntary where self-selection occurs and potential makes the schemes unsustainable.

Inefficiencies in revenue collection by LMICs leads to few resources being mobilized for the overall government budget and consequently few available to be allocated to health departments (Hsu et al., 2015). The informal sector is characterized by irregular and varying incomes (Omolo, 2013). This means that it is difficult to plan for prepayments for health as one is not sure of when he/she will get money. The contribution schedule and mode need to be tailored to fit into their income frequencies as well as preferred mode of payments. Weak tax collection systems and poor enforcement of taxation laws leads to loss of funds that would have actually been used to expand the fiscal space for health(Mills, 2014).Expanding the tax base into the informal sector in Thailand has been touted to help ease the tax burden (Hsu et al., 2015). Corruption also contributes to these inefficiencies as government workers charged with ensuring compliance are compromised. Inefficiencies in use of health resources through ineffective allocation and misappropriation of funds further contribute to these losses.

There are various considerations to be made on the benefit package offered to the informal sector workers as these ultimately impact coverage. LMICs are faced with a challenge of making the benefit package as attractive as possible with the little resources available and still be able to provide financial risk protection(Kwon, 2009).Voluntary schemes have multiple packages to choose from though this raises equity concerns. South Korea's

uniform basic package helped the country rapidly enroll members from the informal sector (Kwon, 2009). The pressure to further improve the benefit package steadily grows as the population ages and incomes increase leading to a rise in health expenditure (Mathauer et al, 2009). Informal sector workers are reluctant to enroll in a scheme if they feel the benefit package given is not good value for their money (Mathauer et al., 2008).

Most LMICs have poorly funded and weak health care systems lacking in proper infrastructure, supplies of medicine and technologies as well as the requisite human resource for health service delivery(Mills, 2014). Effective coverage requires that supply side is strengthened in order to be attractive especially where the enrolled are supposed to visit government facilities. Informal sector workers will not be motivated to enroll in a scheme if they feel the quality of service offered is not satisfactory or would be non-responsive to their needs. A Cambodian study done in 2014 showed that people were unwilling to enroll because they felt the quality of service in government run facilities was wanting (Bitran, 2014). Governments should thus continually seek to increase funding to their health system in their country to strengthen it.

Awareness on the availability and need to have health insurance coverage is among the key reasons for low coverage. Studies have shown that lack of awareness and knowledge on enrollment options has hindered increase in health insurance coverage. A study on the National Hospital Insurance Fund (NHIF) Kenya, showed that lack of information was a leading cause of low enrollment rates (Mathauer et al., 2008). Various communication campaigns and strategies have been used to increase demand for health insurance. Thailand used television and radio advertisements to improve enrollment into their national scheme. In conclusion communication and raising awareness on benefits and enrollment processes wont bear fruit if the services offered are not improved or do not meet the needs of the target population.

2.7 Health Care Financing Policies in Kenya over the Years

During the colonial periods, there was a policy on user fees on all the public facilities, just two years into independence in 1965, the government removed all user fees to promote utilization of health services funded through tax revenues. In 1989 following widespread

pressure from World Bank and International Monetary Fund, user fees were reintroduced in all public facilities. This was aimed at addressing the need for additional resources for health and declining budgets for the health sector in the backdrop of poor performance of the economy then. Years later in 1991 user fees were suspended and waivers and exemptions put in place to protect the vulnerable members of the society. At the end of 1991 to the year 2003 there was phased implementation of user fees starting at the hospital level, down to having exemptions for under-fives and free tuberculosis treatment.

In 2003 under the NARC government that had come into power in 2002, user fees were abolished and a policy of 10/20 was introduced. This introduced registration fees of ten shillings for dispensaries and twenty shillings for health centres. Exemptions however, remained for the under-fives and some special treatments such as HIV/AIDS, tuberculosis and malaria. In 2007 there was a directive that delivery fees be abolished in all public health facilities. In 2010 with the support of donors to the health sector services fund (HSSF) was formed as an initiative to compensate facilities for lost revenue through user fees removal. It sent monies directly to facilities funds. In 2013 the health services were devolved and funds are now allocated to facilities through the county allocation and budgets appropriated for health as passed by the various county assemblies

2.8 Summary of Literature Review

There is consensus that prepayments are a better strategy of health care financing as compared to out of pocket payments that have actually been found to be the least progressive form of financing. There is greater need to come up with strategies and products tailored to the informal sector, as it comprises a large chunk in developing countries, in Kenya they comprise about 85% of the working population. The challenge of the poor indigent and vulnerable remains and as such governments needs to find innovative ways of paying for premiums among this population.

Mostly the people whose health care expenditure is above the health insurance premiums cost see health insurance as a net gain. Many studies have attempted to understand why people take up health insurance what motivates them and what constitutes a barrier to them. There is willingness to take up health insurance among the informal sector what lacks are

products acceptable to them, knowledge and understanding of health insurance, quality of health care services they expect to get once they sign up with an insurance plan. Further determinants for enrollment were marital status level of education, gender of house hold head, and exposure to media both print and audio-visual and the appropriateness of the benefits package being offered by the insurer.

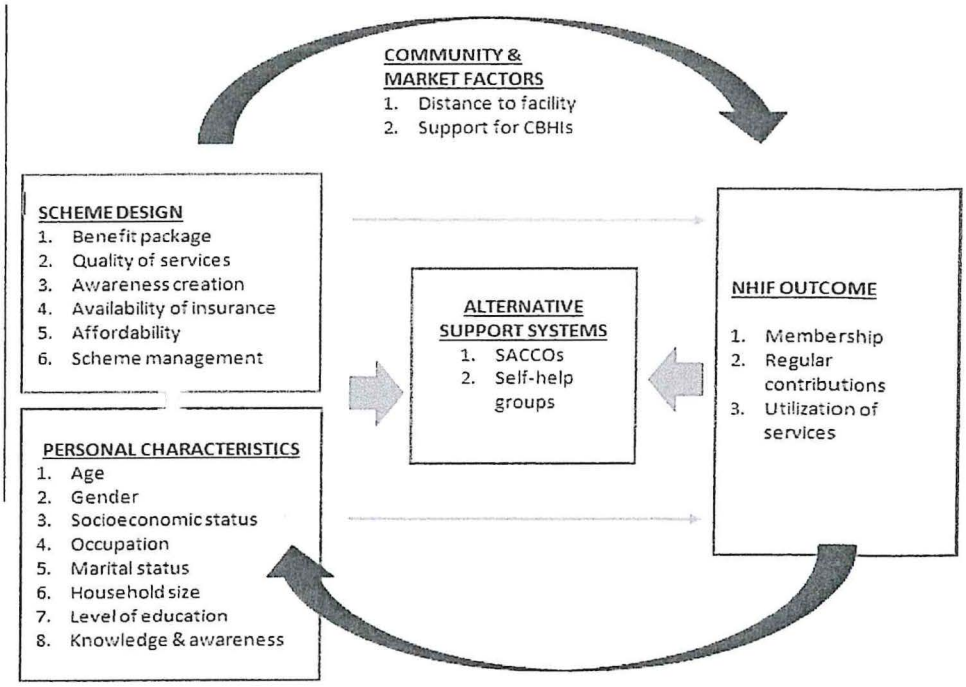

Figure 2.1: Conceptual Framework

The above conceptual framework will be used to assess the effects on enrollment and retention due to factors such as personal characteristics, scheme design, community and market factors as well as the effect of alternative support systems as depicted in the schematic presentation. The scheme design coupled with personal characteristics interacting with community and market factors influence enrollment, retention and utilization of NHIF. Market factors play the role of encouraging or discouraging NHIF uptake and utilization. Availability of alternative support systems also influences uptake

and utilization of NHIF. Potential members may opt out and rely on their community or group support groups/systems.

3 CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Research Design

The study was cross sectional to critically assess and measure key determinants of enrolment and retention into the NHIF.

3.2 Sampling

3.2.1 Study Setting and Population

The target population is commercial boda-boda riders in Kakamega County. Kakamega County has twelve (12) sub-counties and covers an area of 3050 km2. The sub-counties represent a mix of urban, peri-urban and rural setups. Stratified random sampling was used as this would help the study to be representative enough of the study population. One sub-county was chosen to represent the various setups.

3.2.2 Sampling Procedures

From a cost perspective, only one sub-county with both urban and rural features (peri-urban) were selected for this study. Because boda-boda operators have stations scattered throughout a setting, a mapping of these stations was undertaken and then randomly selected to participate in the study. Random selection was repeated at each selected station to eliminate selection bias.

3.2.3 Sample Size Determination

This being an infinite population the formula that was used to determine the sample size for this study.

With a 95% confidence interval level (Z), is

$$n=Z2 \times p\ (1-p)/M2$$

Population proportion at 90%, (p); from recent data on the informal sector less than 10% of informal sector workers have health insurance. We therefore assume that 90% of the riders (the proportion to be measured) have no health insurance.

Margin of error (M) 5%

Sample size for infinite population (n)

These were then adjusted as per the population estimate to then get a sample size to study.

Calculating the sample size;

$$1.96*1.96*0.9(1-0.9)/0.05*0.05=138$$

3.3 Data Collection Methods

3.3.1 Initiating Contacts

The boda-boda riders belong to support or self-help groups. Thus, they were our first stop in initiating contacts. The leaders gave us a guide on who to talk to and introduced us to the rest of the members.

3.3.2 Data Collection Tools

A standardized questionnaire was developed and was administered by a research assistant who took the participants through the questions and fill in the appropriate responses as given. According to Mugenda (1999) questionnaires give detailed answers to complex problems as well as give relatively objective data and are cost effective to administer

3.4 Data Management and Analysis

Primary data were collected using questionnaires administered by research assistants to the selected study respondents. The data collected were cross-checked for completeness and accuracy. Data analysis was further done by statistical package for social sciences (SPSS). Regression analyses assessed various factors such as demographic factors, alternative support systems, market factors influence and how they relate to enrollment into NHIF and other insurance schemes. The summaries were presented in tables and graphs as well as reporting of significant values.

3.5 Data Validity and Reliability

A pilot for the questionnaire was conducted. Interview sessions helped with the aim of eliciting how well and precise the questions address the objectives being addressed in the study. Feedback from the respondents were elicited on the general clarity of the questions asked.

3.6 Data Presentation and Analysis

Once the questionnaires are collected analysis on their completeness, accuracy and establishing that the due process was followed in data collection with emphasis on informed consent followed. The data were entered into SPSS and descriptive statistics such as chi square tests were done.

3.7 Ethical Considerations

Approval from Strathmore University's research and ethics department was sought as well as an introduction from the local motor-cycle riders' organization in Kakamega County before embarking on data collection.

4 CHAPTER FOUR: RESULTS

4.1 Demographic Characteristics of the Study Sample

All the respondents in the study were male. A majority 35 % were in the age group 18-25year age group and 26-35 years being 34 %. This means over 70% of the respondents were under 35 years classified as youth in our country. Over half (62%) of the respondents were married, single ones represented 33 % of the sample interviewed. On the level of education attained only 28 % had primary education or no education at all. Slightly less than half of the respondents had a family size of 3-5 members. Majority of the respondents didn't own the motorcycles and had leased them from the owners.

Table 4.1: Demographic characteristics of the study population

Demographics	n (%)
Gender	
Male (n=139)	139 (100)
Age	
18-25 (n=49)	49 (35.3)
26-35 (n=48)	48 (34.5)
36-45 (n=29)	29 (20.9)
46 and above (n=13)	13 (9.4)
Marital status	
Single (n=47)	47 (33.8)
Married (n=87)	87 (62.6)
Separated (n=3)	3 (2.2)
Divorced (n=1)	1 (0.7)
Widower (n=1)	1 (0.7)
Education	
No schooling (n=5)	5 (3.7)
Primary (n=34)	34 (25.2)

Demographics	n (%)
Secondary (n=52)	52 (38.5)
Tertiary (n=23)	23 (17)
University (n=21)	21 (15.6)
Household size	
1-2 (n=25)	25 (19.8)
3-5 (n=60)	60 (47.6)
6-8 (n=34)	34 (27)
8+ (n=7)	7 (5.6)
Ownership of motorcycle	
Owned (n=42)	42 (30.4)
Leased (n=97)	97 (69.6)
Income Median (IQR)	7000 (IQR: 3000 - 20000)
Income levels	
<5000	35 (31.8)
5000-9000	29 (26.4)
9001-13000	10 (9.1)
13001-21000	17 (15.4)
>21000	19 (17.3)
NHIF membership	69 (50)

The boda-boda business is run solely by males with 70% being under the age of 35 years. The findings show that the single dominate the business because of the demanding work schedules to adhere to. Most of the riders were using leased motorcycles. The higher the educational level attained the more likely a rider was to have NHIF. Nearly half of the respondents are enrolled in NHIF.

Almost all the respondents 94% had heard of NHIF but only about 50% had enrolled into the scheme to help them access health services in case of an illness or an accident. In addition, 9 % of the respondents had other insurance schemes notably Britam health insurance. A large majority of those enrolled in health insurance scheme regularly contribute their premiums meaning that a smaller percentage of the riders are likely to struggle in paying their premiums. Among NHIF enrolees, 60% had used NHIF services in the last six months; 93.6% of them report that the received the services they needed that is the services were available. Those who didn't have medical insurance 48% of them paid for the hospital bills using their savings.

Among the reasons given for no enrollment most respondents said the process of enrolling was long and tiresome, some were not clear on the actual process as well as what is needed reflecting low levels of awareness of the whole process of enrollment. Quite a number also felt they were still young and thus didn't need medical insurance despite engaging in a risky job. It was also noted that the penalties levied to those who miss their premium contributions was a deterrent as they were afraid to join and end up getting penalties as their income can at times be unpredictable.

4.2 The Role of Socio-Demographic Factors on NHIF Enrolment

Results from bivariate analysis indicate that individuals aged between 36-45 years old were two times more likely to be enrolled in an NHIF scheme as compared to those aged between 18-25 years (OR=2.790; 95% CI: 1.078-7.222). Moreover, respondents with a level of income above KSh. 21,000 had over seventeen-fold increase in the odds of being enrolled in NHIF relative to those who earned an income lower than KSh. 5,000 (OR=17.33; 95% CI:4.002-75.07).

Table 4.2: Influence of socio-demographic characteristics on NHIF enrolment

NHIF Enrollment	Odds ratio	95% Confidence interval	P value
Age			
18-25	Ref		
26-35	3.340	(1.440-7.751)	0.005**
36-45	2.790	(1.078-7.222)	0.035**

NHIF Enrollment	Odds ratio	95% Confidence interval	P value
46 and above	7.556	(1.815-31.45)	0.005**
Marital status			
Single	Ref		
Married	3.109	(1.470-3.939)	0.562
Separated/Divorced/Widow	4.267	(0.358-50.83)	0.251
Level of education			
No schooling	Ref		
Primary	0.563	(0.080-3.939)	0.562
Secondary	1.891	(0.291-12.28)	0.504
Tertiary	2.812	(0.387-20.46)	0.307
University	2.437	(0.332-17.91)	0.381
Household size			
1-2	Ref		
3-5	1.255	(0.491-3.211)	0.635
6-8	0.923	(0.328-2.594)	0.879
8+	0.154	(0.016-1.471)	0.104
Ownership of motorcycle			
Owned	Ref		
Leased	0.844	(0.270-2.642)	0.771
Level of income			
<5000	Ref		
5000-9000	4.000	(1.360-11.76)	0.012**
9001-13000	3.250	(0.746-14.15)	0.116
13001-21000	15.17	(3.461-66.46)	<0.001**
>21000	17.33	(4.002-75.07)	<0.001**

Notes: *, **, *** indicate significance at 1%, 5% and 10% respectively

The riders' age influenced enrollment and it was found that the higher the age the more likely one was to take up NHIF, these could be attributed to increased health services demands because of children as well as the increase in responsibilities for the breadwinners. Marital status, level of education and household size were not significant determinants of enrollment in our study these could be attributable to our sample size being small to allow that factor to be clear as a determinant. The income level of 9000-13000 wasn't a significant predictor of NHIF enrollment also attributable to the low numbers of riders who reported this category as their income level.

4.3 Influence of NHIF Scheme Design on Enrollment

Table 4.3 shows the findings on how the scheme design influences enrollment. The features of the scheme researched on were awareness of the benefits offered, affordability of the premiums as well as frequency of payments for the same and quality standards in participating facilities and mechanisms of addressing complaints.

Table 4.3: Influence of NHIF scheme design on enrolment

NHIF Enrollment	Odds ratio	95% Confidence interval	P value
Aware of the benefits offered by NHIF			
Yes	Ref		
No	0.056	(0.025-0.144)	<0.001**
Monthly premium affordable			
Yes	Ref		
No	0.169	(0.077-0.371)	<0.001**
Content with the way the scheme is managed/administered			
Yes	Ref		
No	0.301	(0.140-0.647)	0.002**
Quality of services offered by participating facilities			
Yes	Ref		
No	0.218	(0.078-0.614)	0.004**
Aware of mechanisms to address complaints			
Yes	Ref		
No	0.159	(0.059-0.428)	<0.001**

Notes: *, **, *** indicate significance at 1%, 5% and 10% respectively`

There was a significant decrease in the odds of being enrolled in NHIF for respondents who were not aware of the benefits offered by NHIF (OR=0.056; 95% CI: 0.025-0.144). This means that it is important that NHIF puts effort in increasing awareness on the benefits package as well as educating the public on the mechanisms available to address complaints (OR=0.159; 95% CI: 0.059-0.428). Similarly, the odds of being enrolled in NHIF significantly reduced for respondents who considered the monthly premiums as expensive (OR=0.169; 95% CI: 0.077-0.371) further illustrating that the monthly premiums are still unaffordable to the riders. Furthermore, for individuals who were not content with the way the scheme was managed/administered and the quality of services offered by participating facilities, the odds of being enrolled in NHIF significantly declined, {(OR=0.301; 95% CI: 0.140-0.647) and (OR=0.218; 95% CI: 0.078-0.614)}, respectively. The riders were not comfortable of enrolling in the scheme because they felt it is a den of corruption owing to the recent bad publicity of NHIF. Riders also felt that quality services were an issue as government owned facilities still form a majority of the providers thus quality issues became disincentives. On addressing of complaints our findings were that it is not significant and we could attribute these to the need to have a critical mass of members whose experiences were not good in addition our sample size was small meaning we couldn't get such information from the size interviewed.

4.4 Influence of Awareness Of NHIF on Enrolment of Boda-Boda Riders

Table 4.4 shows the influence of awareness of NHIF on enrollment by boda-boda riders it shows data on visibility of IEC materials, billboards, participation in NHIF forums, peer reviews of NHIF and location of local NHIF offices to gauge visibility and presence.

Table 4.4: Influence of awareness of NHIF on enrolment of boda-boda riders

NHIF Enrollment	Odds ratio	95% Confidence interval	P value
Seen IEC materials, bill-boards and audio-visual bill-boards			
Yes	Ref		
No	0.170	(0.075-0.389)	<0.001**
Participation in NHIF forum			
Yes	Ref		

NHIF Enrollment	Odds ratio	95% Confidence interval	P value
No	0.038	(0.005-0.296)	0.002**
Aware of colleague who has benefited from NHIF package			
Yes	Ref		
No	0.214	(0.091-0.504)	<0.001**
Aware of the location of local NHIF offices			
Yes	Ref		
No	0.062	(0.024-0.165)	<0.001**
Aware of enrollment process for NHIF membership			
Yes	Ref		
No	0.009	(0.002-0.035)	<0.001**

Notes: *, **, *** indicate significance at 1%, 5% and 10% respectively

There was a significant decrease in the odds of being enrolled in NHIF for respondents who had not seen IEC materials, bill-boards and audio-visual bill-boards (OR=0.170; 95% CI: 0.075-0.389) and who had not participated in NHIF forums (OR=0.038; 95% CI: 0.005-0.296). IEC materials are meant to be a quick and easy to read informant piece of information their visibility being low could mean they aren't enough of them or they are not regularly replaced it could also signify inability to read or show the lack of IEC materials in a language the riders could identify. More so, the odds of being enrolled in NHIF reduced for respondents who were not aware of colleagues who had previously benefited from the package (OR=0.214; 95% CI: 0.091-0.504), the location of local NHIF offices (OR=0.062; 95% CI: 0.024-0.165) and the enrollment process for NHIF membership (OR=0.009; 95% CI: 0.002-0.035). NHIF forums would provide a great platform as it fosters interaction thus promoting better understanding and can also be done in the dominant local language used in the region.

5 CHAPTER FIVE: DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.1 Discussion

The informal sector is critical in achieving universal health coverage through prepayments as the health financing model to be used. The government of Kenya favours a contributory approach in raising funds for UHC. The current NHIF coverage in our country is still low standing at around 19 %, the membership consists both members of the formal sector whose membership is compulsory whereas for the informal sector membership is voluntary. We set out to identify the barriers contributing to the low participation of members in the informal sector here represented by the boda-boda riders.

A statistically significant correlation as shown above in the result analysis that being of a lower age (less than 35 years and unmarried) was associated with lack of NHIF or any medical insurance. This draws to a need to increase efforts towards awareness on the great need and importance of health insurance among these group. This coupled with the level of education one had attained was a predictor of health insurance status. A majority of those with primary level education or none at all did not have NHIF this is in tandem with studies such as (Mukhwana et al, 2015 : Mulupi 2013) that showed marital status and education level as influencing health insurance ownership and participation. A study by Muketha, (2014) on determinants of enrollment into NHIF by informal sector workers also showed that being married and having a higher educational level was a significant factor in influencing enrollment. A study by Kituku, (2016) on members of UNAITAS Sacco in Murang'a County showed that presence of children in the family, age, level of education and marital status were a contributor to enrollment into NHIF.

Low levels of awareness on processes of enrollment, benefit package offered, complaints resolution as well as low levels of participation in NHIF forum seem to be a great contributor to the low coverage. NHIF forums, open days or member days should be enhanced as they will greatly help in educating and raising awareness on the benefits of NHIF membership and health insurance in general. Participation in such forums from our

study was at 14%. Similar study done by (Mathaeur, 2008) on NHIF showed that low levels of awareness were an important contributor to the low levels of enrollment. A similar study carried out in Kakamega on members of the informal sector study by Mukhwana et al, 2015 showed that informal sector employees earning more than 10,000 were likely to be enrolled into NHIF similarly they found out that increased awareness on benefits as well as higher educational levels were important determinants.

Closely tied to the facilities participation was the issue of drug availability and availability of services and the member's view of quality health services. The boda-boda riders informed us that they at times miss drugs due to stock outs or simply unavailability of the drugs. This also served as a deterrent to enrollment as potential members felt they might not get value for their money despite the scheme being quite comprehensive in the benefit package especially specialized services. These findings are in concordance to a study by Kotoh et al (2018) on the Ghanaian National health insurance agency where quality of service offered stemming from service delivery challenges of the health care system was indeed a barrier to enrollment and retention.

In Cambodia Bitran (2014) showed that people were unwilling to enroll in a scheme if they felt the quality of service offered was not up to standard. This further shows the need for NHIF to ensure facilities participating offer quality and safe health care services to their members. The challenge of drug stock outs and supplies is threatening to derail and undermine efforts to drive up enrollment to achieve UHC. Stock outs lead to out of pocket payments for drugs and surgical supplies thus putting members into possible financial risk and catastrophic expenditure this is worse when there is a specialized surgical implant needed but not stocked in the participating facilities.

The push for UHC in Kenya is gradually gaining lots of traction with the new regime putting affordable and quality health care as part of the big 4 agenda. Healthcare financing is central in realization of UHC. The government of Kenya should explore the necessary legislative needed and push for a mandatory social insurance through repeal of the NHIF act. The repeals should be largely aimed at improving revenue collected, pooling mechanisms and efficiency in contracting participating health care providers. Compulsory

enrollment would be acceptable if there is quality care and health care access faster for the insured (Kutoh et al, 2018). It was further seen in the study that politics is a determinant of enrollment and retention in the Ghanaian scheme, political divides should not be used to derail enrollment however a push by both divides drives up enrollment through a sense of ownership of the government of the day's strategy to achieve UHC. In Kenya calls to unity and the recent spirit of working together between the two top political players is likely to help our push for UHC.

Our respondents were quick to voice the effect of paying for hospitals bills out of pocket for their relatives thus showing that if an agreeable premium is put they would be willing to contribute some amount to ensure everyone is covered by the scheme. Research is however is needed to further contribute to this anecdotal finding and establish the willingness to pay for such a coverage and amounts acceptable to everyone. This is in concordance with kutoh et al 2018 whose study showed that poverty was not a reason for non-enrollment except for the very poor, people will be willing to enroll once they are assured of quality service in the participating facilities. This shows that UHC will only be achieved through quality service provision which the government must be will to invest huge amount of funds to strengthen every pillar of the health care system as government is the biggest and most influential player in a health care system.

5.2 Recommendations

I recommend that NHIF engages in more forums, open days and member educational day as these provide a more engaging and active participation allowing for feedback and improved understanding of benefits package and membership responsibilities and rights. In addition, NHIF can improve their communication channels and tailor them further to the informal sector. It should strive to remove them formal sector tag. Social marketing strategy should be developed to further drive up knowledge of the public on the importance of the national insurer to the wellbeing of families and the society at large. This approach to the informal sector will go a long way in eliminating the formal sector tag already alluded.

The penalties levied on members who are unable to pay their monthly for any reason mainly stemming from irregular incomes needs to be reviewed or structured in a way that it doesn't deter membership or discourage participation due to fear of penalties. A form of penalty that is deterrent enough from missed contributions as well as being fair is needed.

Continual service improvement by facilities participating needs to be emphasized and efforts put in surveillance on quality service provision. In the rural areas most participating facilities are government owned and thus their performance is critical to the success of NHIF. In addition, the government needs to put investments in improving health system in general through capital investments in human resource development, medical devices investments as well as health leadership and governance strengthening. This is in concordance with a study in Ghana's whose findings and recommendation was on leadership, innovation and collaborations as they was not an increase in enrollment despite increase in awareness and knowledge on the scheme (Seddoh & Sataru, 2018).

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Appendices

Appendix 1-Questionnaire

Good morning/good afternoon my name is Cliff Mose a postgraduate student at Strathmore Business School pursuing an MBA (health care management) and would like to ask you a

few questions regarding national hospital insurance fund (NHIF) this information will be important for us to understand about your membership or reasons for not enrolling into the scheme. Your identity will not be revealed and we ask that you answer the questions truthfully as there is no right or wrong answer.

SECTION A: BIO DATA

1. Gender?
   M( ) F( )
2. Age?
   18-25 ( ) 26-35 ( ) 36-45 ( ) 46 and above ( )
3. Marital status?
   Single ( ) Married ( ) Separated ( ) divorced ( ) widower ( )
4. Highest level of education?
   No schooling ( ) Primary school ( ) Secondary school ( ) Tertiary college ( ) University ( )
5. Household size: 1 -2; 3 – 5; 6 – 8; 8+
6. Ownership of motor-cycle: 1) Owned 2) Leased
7. Average income per month:

SECTION B: SOCIOECONOMIC FACTORS

1. Have you ever heard of the NHIF? Y/N

2. If YES, where did you hear about the NHIF?

3. Do you know the main role of NHIF's? (Ask the participant to state)
   a) _____

4. Are you enrolled in the NHIF?

Yes ( ) No ( )

5. If yes, do you regularly contribute your premiums?
   YES / NO

6. (If No in 4) What is the main reasons for not enrolling in the NHIF?
   a) _____
   b) _____
   c) _____

7. Are you enrolled in any other health insurance scheme?
   Yes ( ) No ( )
8. If Yes, name the insurer_____

9. Why did you decide to take up health insurance?
   _____
   _____
   _____

10. If No, why are you not enrolled into any health insurance scheme?
    a)_____
    b) _____
    c) _____
    d)_____

11. For those enrolled in the NHIF, have you used the NHIF services in the last SIX months?
    YES / NO
12. If YES, were all the health services available?
    YES / NO

13. Do you understand the services you pay for at the NHIF?
    YES/ NO

14. IF YES, could you state some of the services you pay for?
    a) _____
    b) _____
    c) _____
    d) _____
    e) _____
    f) _____
    g) _____

15. What other services would you like the NHIF to pay for?
    a) _____
    b) _____
    c) _____
    d) _____
    e) _____

16. Have you ever had to pay a big hospital bill either due to an accident or major illness for yourself or family member? Yes ( ) No ( )

17. How did you pay for the hospital bill?
    Savings ( ) borrow from friends ( ) borrow from bank ( ) Sale of asset

SECTION C: SCHEME DESIGN

1. Are you aware of the benefits packages as a contributor/potential contributor as offered by NHIF?

Yes ( ) No ( )

2. Is the monthly premium amount of KSh 500 affordable to you?
   YES? NO
3. What mode of contribution is preferable to you?
   Mobile payments ( ) bank payments ( ) agents pay points ( ) NHIF offices ( )

4. What frequency of contributions would be acceptable to you?
   Daily ( ) weekly ( ) monthly ( ) quarterly ( ) annually ( )

5. Are you content with the way the scheme is managed and administered?
   Yes ( ) No ( )

6. Do the participating health facilities offer quality and acceptable services to you as a contributor/potential contributor?
   Yes ( ) No ( )

7. If NO, what improvements would you like to see?
   _____
   _____
   _____
   _____

8. Are you aware of any mechanisms to address complaints against the NHIF or provider?
   YES/ NO

SECTION D: AWARENESS CREATION

1. Have you seen IEC materials, bill boards and audio-visual bill boards by NHIF?

Yes ( ) No ( )

2. Have you participated in any NHIF education forum or contacted by an employee of NHIF on the need to enroll in NHIF Yes ( ) No ( )
3. Do you know of a colleague who has benefitted from NHIF benefit package when he/she suffered major illness or accident Yes ( ) No ( )
3. Do you know the location of the local NHIF office?
   Yes ( ) No ( )
4. Are you aware of the enrollment process for NHIF membership?
   Yes ( ) No ( )

Appendix 2- Research Budget

Activities	Amount (KSH)
Developing Research Proposal	7,000
Research Instruments - Questionnaires	3,000
Data Analysis - Research Assistant	10,000
Printing Write-Up	2,500
Travel Expenses	3,000
Total Expenses	25, 500

Appendix 3- Timeline of Activities

Activity	Sept 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	April 2018	May 2018
Area of interest identified	x								
Topic refined to develop study proposal	x								
Write, submit and defend Proposal		x	x						
Collection of data and information				x	x				
Analysis and interpretation of collected data/information						x			
Final draft prepared - submission of study report							X		