ASSESSMENT OF HEALTH INSURANCE SCHEMES UPTAKE BY THE INFORMAL SECTOR WORKERS AT MATUU, MACHAKOS COUNTY, KENYA

FARIDA ASINDUA

A THESIS SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PUBLIC HEALTH DEGREE OF MOUNT KENYA UNIVERSITY

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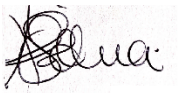
DECLARATION AND APPROVAL

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



Signed..... Date: May 10, 2021

Farida Asindua

Student No. MPH/2017/64038

APPROVAL

We confirm that the work reported in this thesis was carried out by the candidate under our supervision.

Signature..... Date: May 10, 2021

Dr. Atei Kerochi

School of Public Health

Signed..... Date: May 10, 2021

Dr. Tabither Gitau

School of Public Health

DEDICATION

To my family, for their unwavering support and encouragement.

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I express special gratitude to the Almighty God for His benevolence upon me in knowledge and skills. I also sincerely thank my supervisors - Dr Tabitha Gitau and Dr Atei Kerochi - who have patiently and vigorously supervised and guided me throughout this study. The critique you offered me during the whole of this period is immeasurable.

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LIST OF ABBREVIATIONS/ ACRONYMS

CBHF	Community-Based Health Financing
CFC	Controlled Foreign Corporation
CHE	Catastrophic Health expenditure
CIC	Cooperative Insurance Company of Kenya
GDP	Gross National Product
GoK	Government of Kenya
IERC	Institutional ethics review committee
ILO	International Labour Organization
KIIS	Key informant interviews
KMO	Kaiser-Meyer-Olkin
LMICs	Low- and Middle-Income Countries
OOP	Out-of-Pocket
SDGs	Sustainable Development Goals
UAP	UAP Insurance Kenya
UHC	Universal Health Coverage
UHC	Universal Health Care
WHO	World Health Organization

OPERATIONAL DEFINATION OF TERMS

Health Care Access This implies a timely individual hospital utilization to obtain the most effective Health results

Catastrophic Health Health insurance that provides protection eventually of unexpected emergencies and also insurance coverage for preventative treatment

Expenditure This results from a scenario through which Out-of-Pocket (OOP) remittances for Hospital consumes a large section of a household's accessible income as well as members are actually driven consequently right into destitution.

Informal sector Encompasses units engaged in production of goods and services provision which normally function at a low level of organisation, that possesses small or even no branch of work, funds or factors of manufacturing. Similarly, with tiny range or even non-existence legal or even work relationships

Informal sector workers In Kenya they consist mainly of small business owners like retailers, hawkers, *boda boda* operators and other service providers excluding drug traffickers and any other illegal activity.

Universal Health Coverage Is termed as guaranteeing that each one individual accesses Health service of satisfactory quality that is effective without exposing the user to monetary hardship.

Health Insurance An Insurance cover that covers the medical and surgical cost for the insured. In this study, it refers to Insurance by Government (NHIF), private providers, and Community-Based Insurance providers.

ABSTRACT

Health insurance is a social protection against the possibility of incurring medical expenditure among individuals. It is therefore, the critical pillar of Health care financing and the main driver in achieving Universal Health coverage in most nations. The core objective of the study was to assess the level of current uptake of Health Insurance among informal sector workers in Matuu Ward within Machakos County. The specific objectives were to determine the proportion of informal sector workers that enrolled for Medical Insurance Scheme in the past three year; to establish the sources of money paid for Health services at the point of use among the informal sector workers and to identify factors that influence uptake of Health Insurance Schemes among informal sector workers. The study site was Matuu Ward, Machakos County and the target population was informal workers. The study design was analytical cross sectional study which applied a mixed method approach in data collection and analysis. The inclusion criteria was employers and employees in the informal sector. The exclusion criteria was minors below 18 years of age. A sample of 202 respondents was selected for this study and primary quantitative data was obtained from sampled individuals involved in enterprises by use of questionnaires. Proportionate sampling technique was then employed to establish how many respondents were to be sampled under each stratum/category. Descriptive data analysis was done and categorical variables in form of frequencies and percentages was done; while numerical variables in form mean, standard deviation was done in analyzing and presenting the data. Qualitative data from key informants was analyzed and then grouped into themes and sub-themes. Ethical considerations were observed. The study found that 97% of the respondents were aware of the health insurance and in addition, only 31% of the respondents were aware of the Universal Health Care (UHC), which is being piloted in Machakos County. The major source of information on health insurance schemes was friends as reported by 41.1% of the respondents. The major reason for stopping payments was loss of main source of income as reported by 41.7%. Chi-square results indicated that gender, age, level of education and income level had no significant effect on uptake of insurance. However, marital status ($p=0.000$) had a significant effect on uptake of insurance. In conclusion, the uptake of health insurance by informal sector workers is high especially with the NHIF. This is because the Government has been aggressively improving the uptake by NHIF by all in the Country to facilitate access to Health Services. Uptake of health insurance offered by private insurance firms was low due to high premiums, bearing in mind that most of the informal sector workers earn very low and irregular incomes. The study recommends that the Government should make health insurance uptake continuity more attractive to the informal sector workers. Government and the private sector should explore public private partnership in provision of health insurance with the aim of promoting the contribution of private health insurance schemes in expanding Universal Health Coverage.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Universal Health Coverage (UHC) is widely supported as one of the social goals that depend on wide access to necessary quality Health care services and protection against financial hazards to all individuals. UHC increases equity and improves population Health which contributes to the country's development (WHO, 2019). Health Insurance is a critical pillar of Health care financing and the main driver in achieving Universal Health Coverage in most nations. It is a form of social protection against the risk of earning medical expenditure among people. It is useful in shielding homes from calamitous medical costs and the resultant impoverishment that comes with ill Health (WHO, 2020). Many people encounter monetary problems as a result of medical expenses. Xu (2021), approximates that 150 million people from across the world undergo monetary catastrophe annually as a result of medical connected expenses and nearly another 100 million find themselves impoverished because of these spontaneous, unplanned expenses, also referred to as Out of Pocket Expenditure (OOP).

It can easily lead to catastrophic impoverishment due to the escalating Healthcare costs and this has the possibility of adversely affecting a household's living standard, because the income spent on Healthcare would have been spent on the basic human needs as food and clothing (O'Donnell, 2018). According to Chuma and Maina (2020), over a tenth of household budgets is spent on Health care payments annually in Kenya. Poorest households consume one third of their income to Health care annually leading to highest occurrence of Out-of-Pocket payments by the poor in contrast to only 8% payment by the richest households. Meghan (2019), reiterates that over half of Health budget in poor nations are taken care of by Out-of-Pocket Payments borne by families.

Globally, most low-income workers are involved in informal work which is described by International Labour Organization (ILO), as any sort of financial activity undertaken through workers with financially rewarding devices that are actually not lawfully or even sufficiently acknowledged through professional agreements (ILO, 2019). According to Rockefeller Foundation (2019), the proportion of informal sector workers in Asia is 82% while Kenya is 77% of the total employment. UHC is just one of the objectives in the Sustainable Development Goals (SDGs), taken on by Globe Leaders in 2015 as an expression of Global Advancement top priorities till 2030 (United Nations, 2020). Accomplishment of UHC calls for that the nations broaden the variety of Health services, increase populace insurance coverage with a pre-payment device, as well as minimize the percentage of straight expenses to people for accessibility to Health care services (Chan, 2020).

Regionally, ILO (2019) puts the proportion of African informal employment at 85.8 per cent (ILO, 2019). Sub-Saharan African nations- consisting of Ghana, Kenya, Nigeria, Rwanda as well as Tanzania- currently apply contributing public Health Insurance schemes. As at 2017, South Africa, Swaziland, Lesotho, Sierra Leone, Liberia, Zambia, Uganda, Burkina Faso as well as Zimbabwe were taking into consideration developing the same (Josephson, 2017; Lagomarsino et al., 2018). Over 90% of those people who experience devastating Health care payments live-in Low-income Nations where their Health systems are mostly financed through unplanned payments which leave the people financially exposed as a result of the huge medical expenses, and ultimately impoverishment (Xu *et al*.,2021).

Locally, Kenya, like many other Low- and Middle-Income Countries (LMICs) is increasingly prioritizing the attainment of Universal Health Coverage (UHC) (Barasa, Maina, Ravishankar, 2017). This remains in quest of the objective of UHC to make sure that every person has accessibility to Healthcare services that they require, of top quality, without the danger of economic mess up or impoverishment (WHO, 2019). With low-income amongst the informal

sector workers, consumption of voluntary Health Insurance is generally low. Some of the reasons include high premiums that are not affordable vis-à-vis income, inability to obtain credit (Behrman & Knowles, 2019), informal social networks that are already in existence, formed as alternatives to formal risk-sharing channels (Jowett, 2015), unfamiliar Insurance products, risk pooling and unwillingness to pay the premiums (Chankova, 2018). Additional factors include poor use of savings and borrowing as an alternative to Insurance (Alderman & Paxson, 2019). The Government recognized the challenge and came up with the Health Financing Strategy in 2010. This Strategy document puts emphasis on the importance of Universal Health Coverage as a bridge to social Health protection for all Kenyans. It introduces mechanisms of social solidarity that are established on corresponding Social Health Insurance principles and Tax financing aiming to provide the poor with financial protection.

In Kenya, Health Insurance is accessed through three Health Insurance schemes; Private Insurance, Public Insurance and Community Based Health Insurance Organizations. The Private Health Insurance is primarily affordable to middle- and higher-income groups due to cost considerations, (Kimani, 2018). Community Based Health Insurance is comparatively new, hence, has restricted coverage (Muiya, 2021). Muiya further avers that most of the Community-Based Health Financing (CBHF) schemes have certain key features which includes voluntary membership, Community initiation and operation, and prepayment membership contribution. Although some of the schemes have been considered as an innovative financing mechanism for the poor, it is not that new. National Health Insurance Fund (NHIF), was established in 1966 vide Act of Parliament as a Department within the Ministry of Health so as to offer Health Insurance solely for those in formal employment. An amendment in 1972 enabled NHIF to accept membership from informal employment. NHIF Act No. Nine of 1998, remodelled NHIF into a State Corporation (Deloitte, 2019; IFC 2019).

This research specifically focused on the factors that are contributing to the level of uptake of Health Insurance cover by the workers in the informal sector in Matuu Ward, Machakos County. Matuu being a quickly growing economy sustained by business services and farming works as a financial center for both Yatta and Masinga Constituencies whose border is near the town. The town has a significant number of informal sector workers and just like the rest, they suffer the plight of being exposed to the catastrophic Health expenditures.

1.2 Statement of the Problem

Dependence on Out-of-Pocket Payments for health services make a large proportion of poor households not to access the available Health services due to monetary constraints. Globally, most low-income workers from developing countries are involved in informal work and are not able to afford health insurance (Chan, 2020). Regionally, over 90% of those people who experience devastating Health care payments are mostly financed through unplanned payments, that leave the people financially exposed as a result of the huge medical expenses, and ultimately impoverishment (Josephson, 2017; Lagomarsino et al., 2018). Locally, it is estimated that 4 out of every 5 Kenyans are not accessing Medical Insurance, hence excluded from quality Health care services (Siddharth 2017). This low health insurance uptake has led to the informal workers foregoing preventive care and seeking health care at more advanced stages of disease. In addition, the society further bears these costs through lower productivity and increased rates of communicable diseases (Muiya, 2021).

In Kenya, the main approach being promoted by the Government of Kenya to access medical insurance is through the NHIF. However, despite the NHIF scheme giving a wide array of clinical services membership enrolment by the workers in the informal sector remains painfully low. This leaves informal sector workers without any form of social protection against the catastrophic medical expenditures (Kimani, 2018). According to a Globe Banking company file, while usually 728,000 brand-new duties were created in Kenya in 2016, 632,000 (87%)

stayed in the informal sector (Planet Bank Team, 2016). Cost repayments developed the greatest amount of Personal Health funding resources; OOP costs as a percent of overall health cost was 29% in 2013 (Spiritual Leadership of Health, 2015). Due to this high dependency of OOP, 4.52% of the Kenyan Populace sustain ravaging health costs, while 453,470 folks are pressed in to difficulty annually due to medical care repayments (Barasa et al., 2017).

In an attempt to broaden Medical insurance protection, the NHIF has initiated various reforms. In the past, the NHIF made use of an Inpatient package only to the public. Increasing protection to contain Outpatient services is now thought to be an approach to create the NHIF a lot more enticing to the general public as well as a drive enrolment. To enable this convenient strategy development, the NHIF increased its fee contribution rates upwards (GIZ, 2016). In addition, past studies have presented mixed findings on uptake of Health Insurance among informal sector workers (Mwabu, 2018; Njuguna & Pepela, 2015; Dror, 2016). Further, the study by Duku et al. (2019) found that the low uptake is due to low quality of health services while Muketha (2018) study found that limited or lack of funds as the cause of decreased health insurance uptake thus creating research gap. Therefore, this study sought to determine the proportion of informal sector workers enrolled for Medical Insurance Scheme; to establish their sources of money paid for Health services and to identify factors that influence uptake of Health Insurance Schemes among informal sector workers in Matuu Ward, Machakos County.

1.3 Objectives

1.3.1 Main Objective

To assess the level of uptake of Health Insurance among informal sector workers in Matuu Ward within Machakos County.

1.3.2 Specific objectives

1. To determine the proportion of informal sector workers enrolled for Medical Insurance Scheme in the past three years in Matuu Ward, Machakos County.
2. To establish the sources of money paid for Health services at the point of use among the informal sector workers in Matuu Ward, Machakos County.
3. To identify factors that influence uptake of Health Insurance Schemes among informal sector workers in Matuu Ward, Machakos County.

1.4 Research Questions

The research provided answers to the following broad questions:

1. What proportion of the informal sector workers in Matuu Ward within Machakos County have taken up a Medical Insurance?
2. What are the sources of money paid for Health services at the point of use by the informal workers in Matuu Ward within Machakos County?
3. What factors influence the uptake of Health Insurance Schemes among informal sector workers in Matuu Ward within Machakos County?

1.5 Justification of the Study

This study is of importance because increased uptake of Health Insurance by the population will generally improve Health care access. This study envisages that it will facilitate the achievement of vision 2030 that contemplates merging, expanding of new and existing and coordinating social Health subsidy mechanism for the poor so as to achieve Universal Coverage. This also compliments the Sustainable Development Goals (SDGs) of a Universal Health Insurance coverage accomplishment by means of accessibility to quality vital Health-care services, economic risk defense, with an access to safe, helpful, high quality and affordable crucial medicines as well as vaccines for all. The findings from this study should relate to the

Ministry of Health and other development partners to identify factors and barriers that determine informal sector employees' uptake of Health Insurance Schemes in Matuu Ward, Machakos County, Kenya. This is in line with the Kenya

Government's Big Four Agenda, the Health component of which envisages attainment of Universal Health Coverage for all households by 2022. Findings from the study will also give Insurance providers an informed understanding of the informal sector workers hence, providing insights on how to better reach them with Health Insurance and more so how-to tailor make packages to suit their needs. Recommendations from this study will help us improve Insurance uptake in the near future. It will help the Government and Insurance companies to redesign their strategies on how to approach the workers in the informal sector so as to improve their uptake of Insurance. It shall also provide insights for Insurance Companies on how to tailor make packages to cover the huge number of workers in the informal sector.

1.6 Study limitation and delimitations

The study was done immediately after the countrywide census and also after a corruption expose of one of the universities in the country. This therefore interfered with participation of respondents in this study. Most cited fatigue in answering of questions and more so, no one accepted to be recorded in the study for fear that the information gathered would be used against them.

The delimitation was that the participants were given adequate time to respond the questionnaire. The respondents were also assured of their confidentiality and anonymity throughout the research process.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

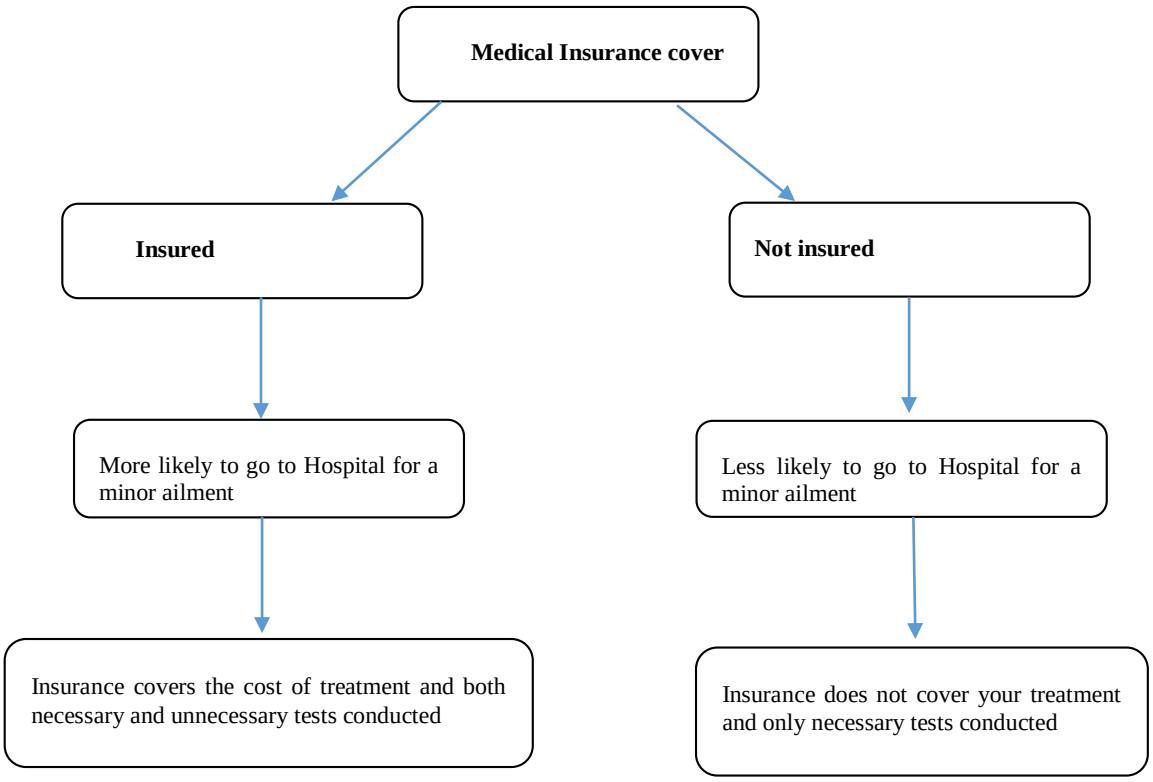
Chapter two presents past research conducted by other researchers relating to Health financing. First, a theoretical framework is provided which focuses on the theories relating to the study. Secondly, an empirical review of the studies that have been done on the study objectives is undertaken. The section then concludes with bringing out the conceptual framework.

2.2 Theoretical Literature Review

The section provides the theories informing the study that includes Moral Hazard Theory and expected utility theory from a gain perspective. The study in anchored on Moral Hazard Theory.

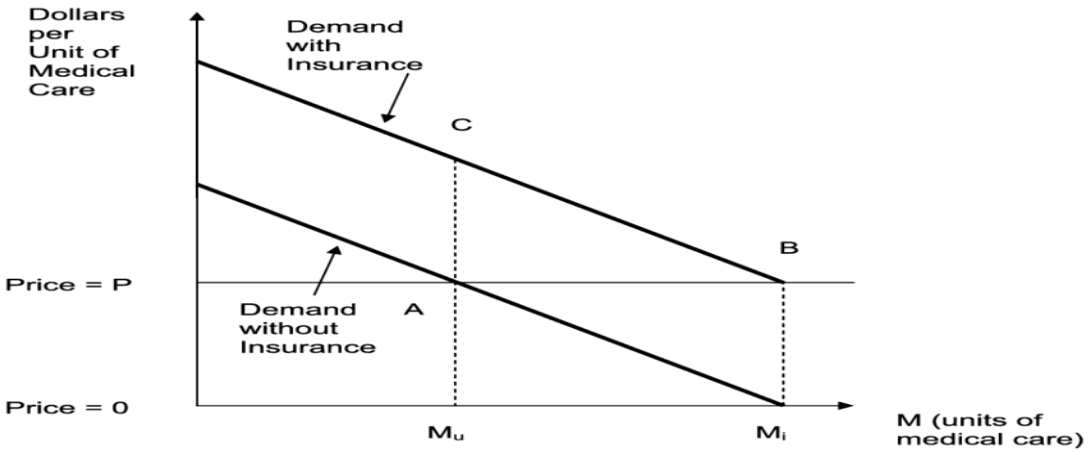
2.2.1 Moral Hazard Theory

This theory postulates that individuals or institutions with Insurance may take more risks than those who do not have an Insurance. This is as a result of the guarantee that there is economic defense coming from the consequences one might obtain from the risky behaviour. This brings about the insurer experiencing extreme insurance claims than anticipated. This theory could be understood in Health care purchase on both the demand and also source side. An increase in intake of services due to low actual cost to the covered individual induces the demand edge of the Moral Hazard Theory. This for that reason triggers needless investing for the buyer knowing that the problem is going to be looked after by the Insurance supplier. The source side of the Moral Hazard Theory ends source where the Treatment Company makes use of the reality that the consumer is economically dealt with and as a result procures excessive Medical care services through overburdening and buying needless health care examinations and also procedures, all considering that the costs will definitely be actually switched to the Medical insurance provider (De Allegri et al., 2008).



(Source: Wijnmalen 2013)

Figure 2.1: Diagrammatic illustration of the Moral Hazard Theory



(Source: John Nyman, 2007)

Figure 2.2 Illustrative Graph on the Moral Hazard Theory

The Figure 2.2 illustrates that "Moral Hazard" is the extra Health care that is actually bought when individuals come to be covered. Under conventional theory, Health financial experts pertain to these extra Health treatment acquisitions as ineffective since they stand for treatment that deserves much less to customers than it sets you back to generate. A brand-new theory,

nonetheless, recommends that much of moral hazard is really effective. When the procedure that was regarded to be welfare-decreasing is actually reclassified as welfare-increasing, Health care insurance happens far more essential to clients than Health financial experts have actually hitherto presumed it was. There is actually a new disagreement for national Health care insurance: performance. This research study for that reason considers this effectiveness among the factors that determine the uptake of Medical insurance Schemes one of informal sector workers in Matuu Ward within Machakos County (Nyman, 2004)

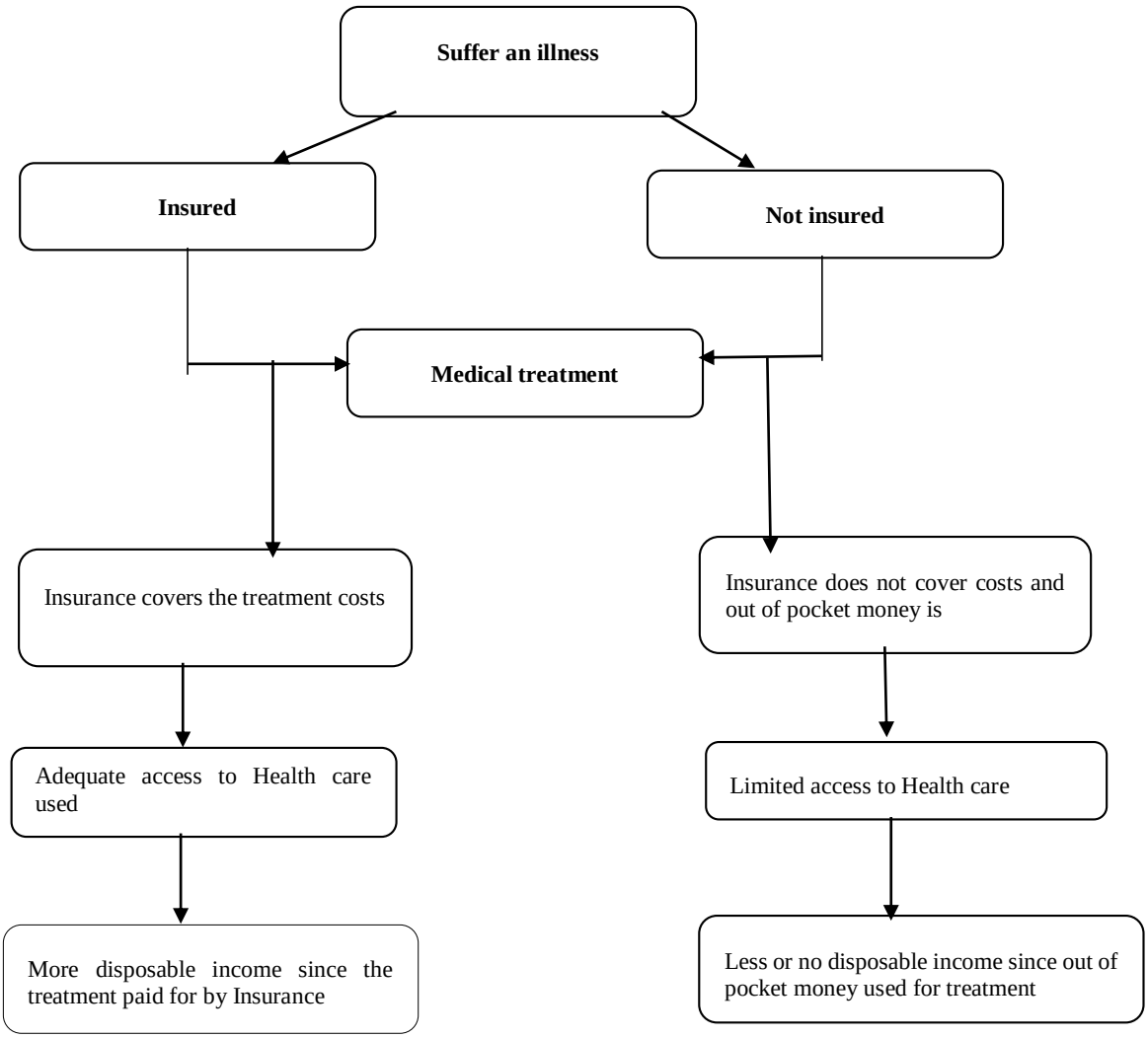
2.2.2 Expected Utility Theory from a Gain Perspective

Nyman's (2001) Expected Utility Theory coming from an Increase Point of view is consistent with any type of investment in a basic market economy. Nyman says that the really worth of Health plan is the expected pay off when ill and also certainly not because of assurance delivered. Nyman additionally insists that when costs is actually paid for through individuals, they give up a revenue that ought to possess been made use of to secure other products and also services. The anticipation when they acquire Health Insurance is that the utility obtained from it exceeds it cost in regards to utility compromised from various other items as well as services that could possibly have been obtained. Within this situation, Insurance is secured as an added profit when in an unwell state.

Two scenarios best explain Nyman’s theory. In the first scenario a person foregoes the disposable income by paying Health Insurance premiums. In case of health issues or unwell state, the therapy price is looked after by the Medical Insurance Cover, sometimes the price being greater than the costs paid, standing for a gain. In the various other 2nd circumstance, the individual does not have a Medical insurance and also as a result does not pay costs. For that reason, a lot more non multiple-use revenue that will certainly at some time bear the stress of treatment prices when health problems strikes without a cover to recede to. The price of

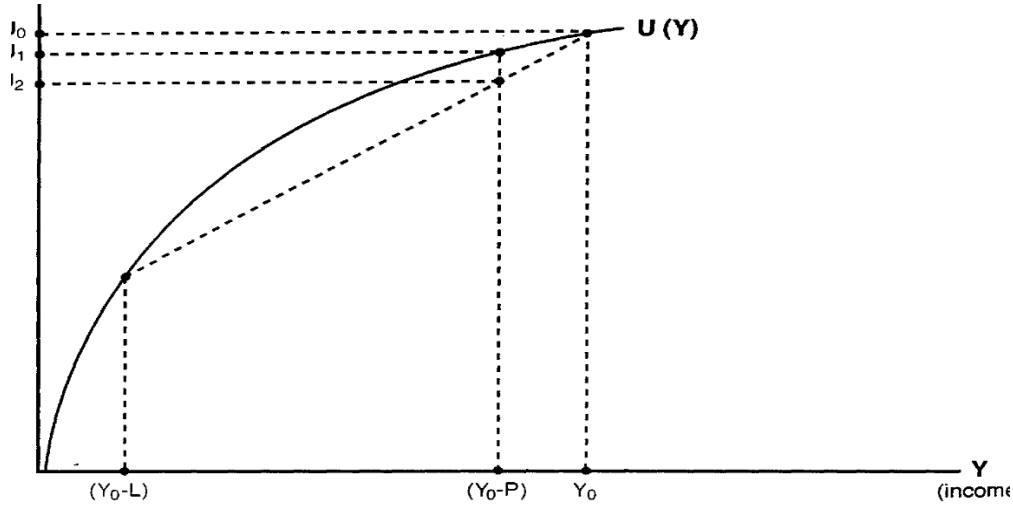
treatment might deplete all the gains that he had actually created in terms of failure in remittance of fees.

This study is actually for that reason grounded on Nyman's theory as it accurately brings out the expected benefit of Health plan uptake.



(Source: Rivenæs, 2016)

Figure 2.3 Diagrammatic illustration of the Expected Utility Theory



(Source: John Nyman, 2001)

Figure 2.4 Illustrative Graph on the Expected Utility Theory from a Gain Perspective

The expected utility function explains a situation where people need to choose without understanding which results might arise from that choice, this is, choice making under unpredictability. These people will certainly pick the act that will certainly lead to the greatest anticipated energy, being the amount of the items of chance and also energy over all feasible results. The choice made will certainly additionally rely on the representative's danger hostility as well as the energy of various other agents. The bottom of the expected utility theory are actually lotteries (Ln), each one determined by achievable outcomes (C1, C2, Cn) and their equivalent possibilities (p_1, p_2, p_i, with $\sum p_i=1$). (Nyman, 2001)

The expected utility feature showed over assists us recognize the actual globe, it is crucial to bear in mind that it is just a simplification of it. Expected utility theory does not totally show just how agents connect in the real life. Agents' behavior in the actual globe appears to methodically damage some of the axioms. The need to understand the behaviour of informal sector workers with regard to expected utility of Health Insurance cover therefore necessitates an empirical study.

2.3 Empirical Literature review

The section provides literature review on uptake of health insurance among informal sector workers, financing for health services among informal sector workers and factors determining the uptake of health insurance schemes.

2.3.1 Uptake of Health Insurance among Informal Sector Workers

According to Duku *et al* (2019), Ghana recognized social Health Insurance (SHI) as a 21st Century fundamental Healthcare financing strategies. A 'compulsory' Scheme dubbed National Health Insurance Scheme (NHIS) was implemented in the Country as from 2003. The Scheme that replaced the '*Fee-For-Service'* financing system was aimed at ensuring that people of Ghana have economic ease of access to premium essential Health care services. Considerable progress was realised with NHIS, and in ten years, a substantial number of the population, that is 34%, had registered with the health scheme. However, this is an indication that a significant proportion of population in Ghana (approximately 66%) are not registered, hence paying out-of-pocket for services at the point of Healthcare. Various Sub-Saharan Africa (SSA) Countries with low-and middle-income, are similarly at different roll out stages of Social Medical insurance Schemes, all targeted at inevitably obtaining Universal Health Coverage (Duku *et al,* 2019).

Informal sector workers in Kenya consist mainly of Small Business owners like Retailers, Hawkers, *Boda* operators and other Service Providers excluding drug traffickers and any other illegal activity (KNBS, 2019). They normally operate under open space and have to contend with harsh climatic conditions; hence, they are commonly referred to as the *Jua Kali* sector. It is generally agreed that important factors associated with impoverishment in the sector are Health problems and Health related expenses (Krishna *et al.*, 2016; Ajwang, 2018). The reason being a Health problem leading to a short-term loss of earnings or to large extent permanent

decreased ability to earn a living. Moreover, in the unfortunate event of ill Health, accidents or injury, informal sector workers are the hardest hit especially in case of lack of voluntary enrolment into the Health Insurance Scheme because they are not covered by the Workmen's Compensation Act (GoK, 1988), the Factories Act (GoK, 1972) or Trade Disputes Act (GoK, 1991).

Several studies have shown that within households in the informal sector they primarily rely upon standard coping actions in managing the damaging results of disease like informal loaning and also marketing household items and properties (Yilma *et al.,* 2018). Some of the informal sector workers opt not to go to hospital altogether, putting them at a higher risk and greater cost of future vulnerability (Yilma*, et al.,* 2018). Other available options for the informal sector workers of accessing and utilizing Health care services are also limiting. For example, while enrolment to a Community Based Health Insurance Scheme looks viable at the grass root level, they are miniature in size and thus providing only inadequate financial protection (Ranson, 2018). Private Health Insurance companies are expensive and cover only less than 2% of the population (Chuma & Okungu, 2020). In addition to being expensive, there are numerous collapses of Private Health Insurance Schemes (World Bank, 2020).

2.3.2 Financing for Health Services among Informal Sector Workers

Providing affordable, accessible as well as top quality Healthcare and also finance is just one of the crucial Health plan problems currently encountering Governments, Policy creators and also International Growth Institutions. Universal Coverage of Healthcare, being a widely backed social target, depends upon broad accessibility to Medical care services as well as low financial difficulties to their application, which is actually expected to strengthen the standard Health standing of the inhabitants (WHO, 2019; Mwabu 2018).

Universal Coverage of Health care has been achieved by only a few Developed Countries namely France, Germany, Portugal, Denmark and the United Kingdom (Wang, 2019). This has been contributed by among other factors, Health Insurance. Most African countries spend less money, time and effort on Health Insurance initiatives while only a small fraction of the Population mainly in the formal sector are covered by Health Insurance. Wang (2019), finds that expansion of Health plan to informal sector in lots of cultivating nations has actually been an obstacle mostly as a result of hardship as well as challenge in accumulating superiors coming from the informal sector workers, the majority of whom are actually geographically scattered. In 2014, the World Bank noted that millions of Kenyans cannot afford Health services in Public or Private Clinics even though provision of quality Health Care is enshrined in the Constitution.

According to WHO (2019) report on Universal Health Insurance coverage, nations require to boost costs on Main Health care through at the very least 1% of their (GDP) if they are actually to surround blazing protection spaces and also fulfil their Health aim. Nations should likewise improve their attempts to broaden Health services countrywide. According to the UHC International surveillance record 2019, the planet should certainly increase Health Protection right now and also 2030 noting that as much as 5 billion folks will certainly still be incapable gaining access to Medical health in 2030.

Kenya as a Country has actually devoted to accomplishing Universal Health Insurance coverage (UHC) through 2030, as an aspect of the United Nations Sustainable Progression Goals (SDGs). Awareness of UHC continues to be a difficulty in providing non-discriminatory accessibility and also cost effective medications within the Nation's People Health locations. According to the latest 2019 citizenry perception survey conducted by Info Track on Universal Health Coverage, 40 per-cent of Kenyans cost the Health care services due to the National as well as county governments as unsatisfactory; while only 28 per-cent measured it as excellent.

The current Kenya Government has prioritized Big Four Agenda for Development with Health as one of the focus areas.

In line with this, the Government is piloting and rolling out the Universal Health Coverage (UHC) program in four Counties of Isiolo, Kisumu, Nyeri and Machakos. According to the survey, a bulk (69%) of Kenyans are actually not aware of UHC while merely 31% reported understanding the UHC course. The report even further presents that most of Kenyans 43 per-cent have certainly not obtained any type of Medical care Services coming from public centres in the last one year. Factors pointed out consist of unsatisfactory Medical Services in public locations, insufficient amenities, and monetary restraints amongst the best. Along with UHC being actually initiated as a Nationwide System, it is actually essential for the Federal government to admit to premium, budget friendly yet top quality in Health care Services (Njuguna & Pepela, 2015).

Health Insurance cover has become an important product in the modern world especially with the increasing costs of Healthcare services. The Government recognized the challenge and came up with the Health Financing Strategy in 2010. Health Insurance covers in Kenya have emerged to ensure that Kenyans can conveniently meet their medical expenses. In Kenya, Health Insurance is accessed through three schemes; Private Health Insurance, Public Insurance Schemes, and CBHI Organizations. Nevertheless, because of set you back factors to consider, the personal Health Insurance is mainly readily available to center- and also higher-income groups (Kimani, 2018). Alternatively, Neighbourhood-- Based Health Insurance is fairly new in Kenya having actually been launched in 1999, hence, has limited coverage (Muiya, 2021). Most of the Community- Based Health Financing (CBHF) Schemes share certain basic features, which include Voluntary Membership, Prepayment Membership Contribution and Community Initiation and Operation. This is not a new venture even if it is considered a scheme that is an innovative financing mechanism for the poor. Meanwhile, there is the National Health

Insurance Fund, a Government Insurance cover established under the parliamentary act of 1966 (NHIF). However, the uptake of the Insurance, as noted earlier, cover has not been very good in various parts of the country.

Mostly, all insurers in Kenya have just recently been hiring amongst the low-end market as even more Kenyans opt for Clinical cover. Firms such as CIC, UAP, Britam as well as CFC Insurance are some vital stakeholders targeting reduced earnings earners, a target team which a variety of insurance providers are heating up to as they look for brand-new earnings streams in a sector which has actually experienced near slow-moving development (Mungai, 2019). Various other gamers like Safaricom and also Changamka Micro Insurance have actually presented a low-priced Medical insurance item called LINDA JAMII which is an inexpensive adaptable system permitting clients registration for the plan using mobile, spend for costs with M-Pesa, and also accessibility Healthcare in 630 second-tier or reasonably budget-friendly Exclusive Medical facilities around the Nation (Mungai, 2019).

The Government of Kenya has committed to achieve UHC by 2030 (Ministry of Health, 2019). The country has a combined Health funding system that is funded via public, exclusive, and also benefactor sources. According to the current National Health Accounts, benefactors, public sources, as well as personal resources stood for 25.6%, 33.5%, as well as 39.8% respectively, of the country's complete quantity Health Cost in 2017 (Ministry of Health, 2019). Clinical insurance security in Kenya remains minimized at 19.59 (Kazungu & Barasa, 2017); 88.4% of those with Clinical insurance are covered by the NHIF, while 11.6% are covered by special insurance companies (Ministry of Health, 2019).

The Health Insurance Act of 1998 does not differentiate in between official work labour force and also the informal sector labour force yet it specifies that membership is necessary for all Kenyans with a minimal age of eighteen years old. In practice nevertheless, an examination research performed by Deloitte (2019) showed that NHIF had success of high degrees of

insurance coverage amongst the official sector as much as nearly 100%, nonetheless the exact same to the informal sector has actually confirmed a lot more difficult.

Deloitte (2019), in an evaluation found out that the rate of NHIF membership enrolment in the informal sector had only increased by 19% of the fund's overall membership. The yearly development for informal sector participants has actually balanced 38% in the last 5 years as well as 10% for official sector participants. They wrapped up that future development would certainly for that reason greatly originated from the informal sector, which has reduced degrees of protection. Deloitte (2019) likewise figured out that though there is a boost in enrolment in the variety of participants, there is variant in their level of task, with high failure prices being experienced. Lack of exercise prices are greater amongst the informal sector participants that make volunteer payments, which emerge when participants pay payments inconsistently in a certain duration. On the whole, NHIF quotes 30% of all participants are inactive with dramatically greater degrees of lack of exercise amongst the informal sector. The greater degrees of lack of exercise result from the informal sector participants eating 33% of the advantages paid. (Deloitte, 2019).

All eligible members from both the formal and informal sector are registered by NHIF. For those in the formal sector, it is required for one to be a member. However, membership is voluntary and open to informal sector workforce and retirees. NHIF's mandate is for enabling Kenyans access quality and also affordable Health Services that comprises benefit packages bearing curative and preventive elements and includes both outpatient and inpatient services (NHIF, 2020). Insurance cover level is higher in the Urban areas is about 20% while the Rural areas account for only 7% (Xu, 2015).

Health Safety and security is considerably being acknowledged as an important component to any sort of poverty decline strategy. Despite the fact that destitution reduction continues to be a purpose of main problem, there has actually been an adjustment in emphasis far from

destitution decrease in itself in favour of social danger monitoring. Such holds true as a result of the expanding gratitude of the duty that threat plays in the lives of the inadequate (Holzmann & Jorgensen, 2020). Existing studies indicate that the poor have greater mortality fees given that they are actually susceptible to be ill and much less likely to go for preventative and curative Health care.

The Health costs results from both direct and indirect expenditures. Direct expenditure are costs such as transport, medication and treatment while indirect relates to opportunity costs such as reduction in labour supply and productivity. The Planet Health Record (2019) mentions that Rwandan Federal government has actually supported totality of over thousand reciprocal Medical insurance Schemes where 74% of the populace has some form of Health Insurance cover. Community Health Workers were tasked to collect the Insurance Scheme premiums that were later transferred to a district level fund that pays for Health services.

Even with the unfamiliar schemes such as the Rwanda, the inadequate populace of many Forming Nations have actually certainly not possessed their Health treatment requires completely satisfied. This is actually as a result of diminishing Spending plan appropriation to Health treatment services, reduced high quality of People Health services, ineffectiveness of People Health regulation and also the resultant encumbrance of individual costs being actually reflective of the condition's incapability of appointment Health treatment requires for the bad (Planet Banking company, 2019). One of Kenyan grownups, merely 3% have actually registered to the Insurance Plan in the Government-run National Health Insurance Fund (NHIF)-Health.

2.3.3 Factors determining the uptake of Health Insurance Schemes

Dror, et al. (2016) conducted a study on what influences voluntary uptake of Community-Based Health plan Schemes in Low and Middle-income Nations (LMIC). The study conducted a

literature based review on studies from May 2015 to November 2015 for Low and Middle-income Nations. The study found that quality of Health care, knowledge and understanding of Insurance and CBHI, count on program management. Barriers to enrolment consist of: Cultural beliefs, price, range to Medical care center, inappropriate benefits deal, shortage of ample Lawful and Plan Platforms to sustain CBHI, as well as stringent procedures of some CBHI Schemes.

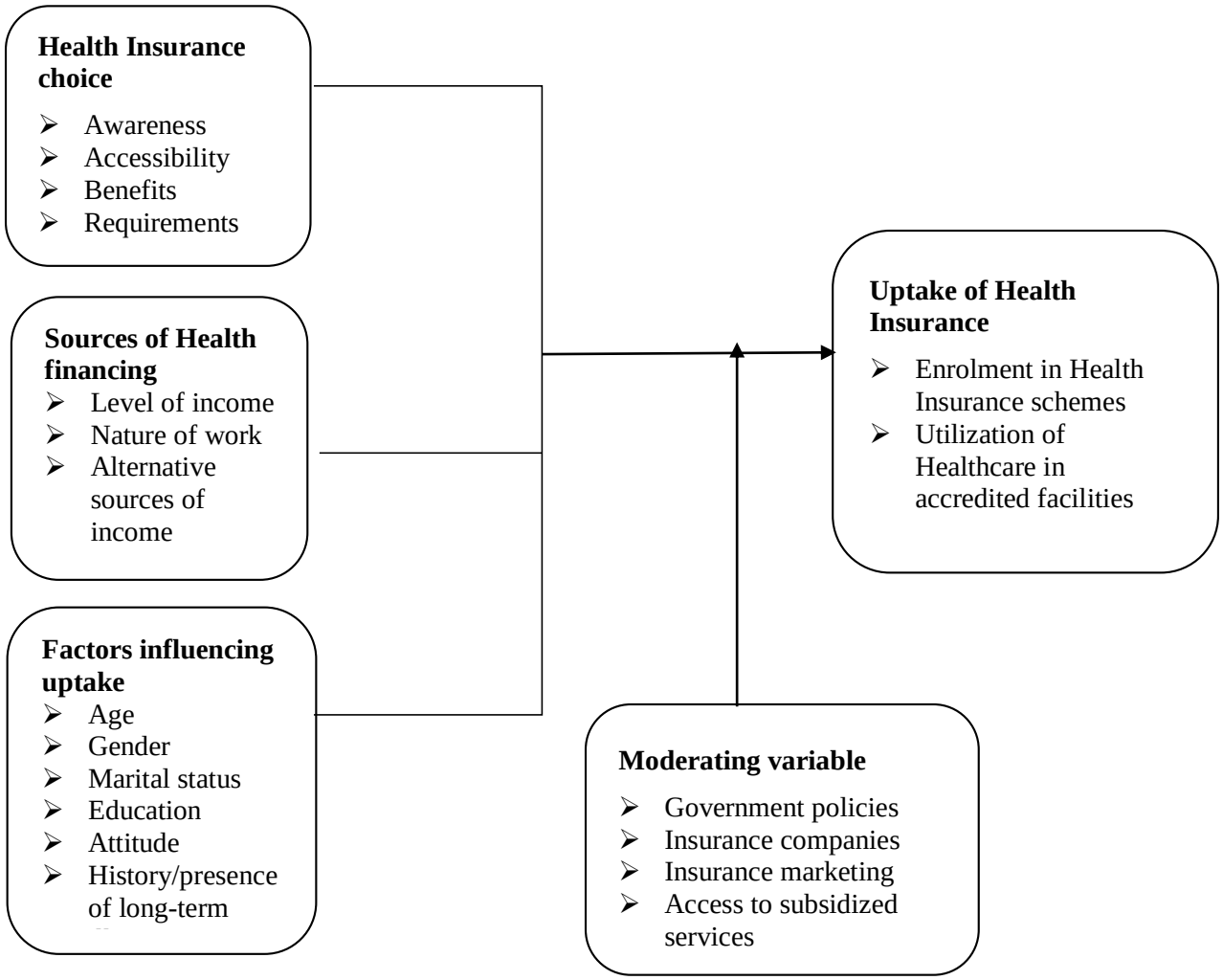
Duku *et al.* (2019) conducted a study on the barriers to uptake and renewal of health insurance membership with experiences from Ghana's national health insurance scheme. The study adopted a cross sectional survey design. The study found that the primary challenges to uptake and revitalization of the NHIS are actually credited to bad of services at both the client-provider as well as client-insurer user interfaces. Some of the low quality services identified as barriers includes not less than 3 months waiting time in accessing care even if the NHIS card has been obtained or even provided; bare relevant information concerning NHIS perk package deal and drug listing; delay in acquiring NHIS Cards upon registration; prejudiced queuing unit where the without insurance are supposedly provided favouritism in much shorter lines up; partially considering that they pay out-of-pocket and also right away help make funds readily available to the center, disrespect through Health companies and also NHIS team, long haul opportunity to find Health Professionals; viewpoint regarding crappy medications distributed to be covered by insurance individuals and also no position for customers to be listened to.

In a study done in Kibera by Muketha (2018), noted that 18.7 percent of the Individuals failed to enrol to Medical insurance given that they knew regarding NHIF or even every other Medical Insurance System, 50.4 per-cent did not have funds while 21.1 percent stated that NHIF and numerous other HIS workplaces are in fact definitely not accessible. These troubles can be affiliated, usually to illiteracy in addition to comprehending on the value of Medical plan.

2.4 Conceptual Framework

The conceptual framework below is used to explain the possible connection between variables identified in the theoretical and empirical literature review above (Kombo & Tromp, 2011). In accordance with the views of Orodho (2009), the Conceptual model provides the means of associating the factors that influence the postulated outline in a pictorial or diagrammatic way.

Independent Variables **Dependent variable**



(Source: Researcher, 2021)

Figure 2.5: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter illustrates the methods deployed in achieving the objectives of the study outlined in the previous chapter. The chapter defines the population targeted, research design, sample and sampling procedure, methods and tools for data collection plus methods of data analysis.

3.2 Study Design

The study design was analytical cross sectional study which applied a mixed method approach in data collection and analysis. The mixed method was used to contribute to answering of the research questions and provide stronger evidence for corroboration of findings through triangulation (Morse, 2016). It involved collecting original data (quantitative and qualitative) in the form of topic guides, interviews and questionnaires from a sample; for purposes of describing the entire population which was too large to observe directly and reported on their current uptake of health insurance in order to answer the research questions. This design also enabled the study collect information about people's opinion, attitudes and habits (Sahin & Öztürk, 2019).

3.3 Study Site

The study site was Matuu Sub County in Machakos County. Machakos County, located on the Eastern part of the Country, has an estimated population of 1,421,932 people with a household of 402,466 covering an Area of 6,208 Square Kilometers. Machakos County had a Population density of 235 per Km^2 as at 2019 population census. Machakos County has a total of 320 Health facilities with Machakos Level 5 being the Referral Hospital and the ideal Center for Medical Research. Matuu is a County Assembly Ward in Yatta Constituency of Machakos County, midway between Nairobi/Kitui en-route to Garissa. It is a rapidly increasing city along

with an economic condition fuelled by industrial services as well as agriculture. The Yatta Channel passes by the town. Matuu has a projected population of 59,556 for 2017 (CIDP, 2015). Matuu Sub County has one public hospital i.e. the government level 4 hospital, one mission hospital and three private hospitals that serve the population. The Sub County does not have insurance offices but several brokerage firms that sell insurance covers from insurance companies.

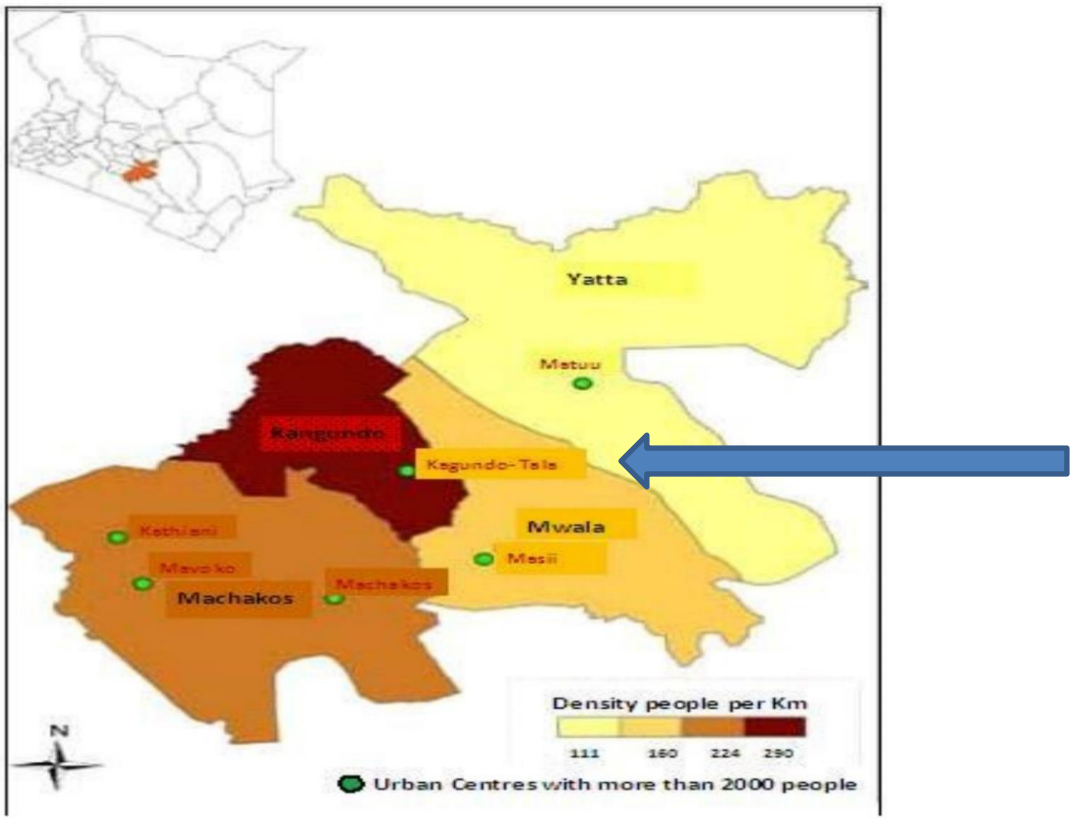


Figure 3.1 Map of Machakos County showing Matuu the study area

3.4 Study Population

The study targeted informal sector workers defined as small business owners and their employees operating in the informal sector at Matuu Ward of Machakos County. The approximate number of entrepreneurs working in the informal sector in Matuu was estimated at 2654 (Reconnaissance visit, 2018). The reconnaissance visit – involved consultations with officials of the County government, the local national government administration and leaders

of various informal sector groupings and this is what established the actual categories of enterprises in the field. The listing consisting of the various kinds of companies formed the strata which in-turn created the basis for the research framework with the research population categorised as indicated:

i) Fruits, Vegetables and Cereals

ii) Mechanics

iii) Clothing and Shoes

iv) Retail Kiosks

v) Hair Salons (including Barber Shops)

vi) Food and Beverage (including Food Kiosks, Bars, Wine & Spirit)

vii) Transport Industry (Boda, Taxi, Matatu Operators)

viii) Furniture and Metal Works

ix) Computer Services (Cybercafé, Photocopy)

x) Money Transfer Services (M-Pesa, T-Cash, Airtel Money)

Individuals involved in these enterprises were the main respondents for the study. The study further also targeted key informants in the informal sector groups, health facilities and in the insurance firms.

3.5 Inclusion Criteria

On the demand side of health Insurance services, the study only included employers and employees in the informal sector who had been in operation in Matuu town for at least three months.

3.6 Exclusion Criteria

The study excluded responders considered to be minors that is below 18 years of age. Those in employment for less than three months were also excluded.

3.7 Sample Size Determination

For this study, a small sample size was required to obtain a representative sample size, thus the Mugenda & Mugenda 2003 formula was used due to its high statistical precision. Stratified random sampling was adopted a formula fronted by Kathuri and Pals (1993) that estimates the sample size, n, from the known population size, N

$$n = \frac{x^2 NP(1-P)}{\sigma^2\ (N-1) + X^2\ P(1-P)}$$

Where N= total population = 2654 as per Reconnaissance visit findings, 2018

n = this is the sample size required

X^2 = value of chi-square for five degrees of freedom, that is 1.96

σ = degree of accuracy of value 0.05

p= proportion of population is taken to be 0.5

$$n = \frac{1.96^2\ \times 2654 \times 0.5 \times (1-0.5)}{0.05^2\ (2654-1) + 1.96^2\ \times 0.5(1-P)}$$

Thus

$$n = \frac{1.96 \times 2654 \times 0.5 \times (1-0.5)}{0.05^2\ \times (2654-1) + 1.96 \times (1-0.5)}$$

$$n = \frac{1300.46}{7.1225}$$

$$n = 182.58$$

$$n = 183$$

To cater for attrition, 10% of the sample was an addition thus the total sample size was 202 respondents. Attrition in the study was meant to take into account the missing information or refusal by the respondents.

3.8 Sampling procedure

Proportionate Sampling Technique was then employed to establish how many respondents were to be sampled under each stratum/category. Below is the sample distribution among various categories of informal workers in Matuu. The formula used was;

$$P = \frac{x}{N/n}$$

Where P is the proportionate sample

X is the number per category established in the field

N is the population of informal workers established in the field

n is the calculated sample size

Table 3.1: Sampling

	Categories of Informal Workers	**No in the field (x)**	**Proportionate sampling (x/N*n)**
1	Fruits, Vegetables and Cereals	24	2
2	Mechanics	186	14
3	Clothing and Shoes	366	28
4	Hair Salons (including Barber shops)	351	27
5	Food and beverage (including Food Kiosks, Bars, Wine & Spirit)	829	63
6	Transport Industry (Bodaboda, Taxi, Matatu Operators)	556	42
7	Furniture and Metal Works	148	11
8	Computer Services (Cybercafé, Photocopy)	60	5
9	Money Transfer Services (M-Pesa, T-Cash, Airtel Money)	134	10
	Total population in the field (N)	**2654**	**202**
	Calculated sample size (n)	**202**	

(Source: Reconnaissance visit August 2018)

Sampling Procedure for quantitative

The list of the different categories of entrepreneurs in Matuu Town as listed above was used. Since the respondents were already grouped in different categories (strata), based on the merchandises, items or even services they offered, basic random sampling was then done to pick the participants in each group (strata) to the study.

Sampling Procedure for qualitative

Purposive sampling for key informants was done from a cross section of leaders of the informal sector groups, managers and persons in charge of health institutions and insurance firms who were found in Machakos.

The sample comprised of the following categories of respondents:

Table 3.2: Sampling categories

Key Informant	**Number**
Leaders of the Entrepreneurs	
Leader of the matatu sacco (kinatwa)	1
Leader of the metal works	1
Hospitals	
Matron of the level 4 hospital	1
Sister in charge of the mission hospital	1
Nurse in charge of the nursing home	1
Insurance Firms	
APA	1
CIC Insurance	1
Britam	1
NHIF	1
Total	**9**

3.9 Selection and training of research assistants.

The study used people familiar with the area and who had previously been engaged in research as analysis assistants. Selection of the research aides was based upon their familiarity with the area of study, including the urban dynamics in Matuu and whether they were conversant with the indigenous kamba language and culture. All research assistants participated in a one-day training before engagement in the field for data collection. The training equipped the research assistants with ethical principles and skills required to conduct data collection. It was also used to transmit and impart on the research assistants with practical skills on how to collect rich and valid quantitative and qualitative data. The participants were also taken through the tools and were engaged in simulation of their application, so that they were familiar with the questions, how to administer the questionnaires and get the desired responses.

Pilot Testing

Pre-testing of the questionnaires was done to ensure that the questions were asked accurately; they reflected the desired information and that the respondents answered the questions. The pilot testing was conducted in Kathiani, Machakos County where 21 respondents (10% of sample size) was used. Debriefing was done with the research assistants where the questionnaires were checked to determine appropriateness and sufficiency of the questions.

The study used the pilot study to test for reliability and validity. In this study, Cronbach's Alpha (Cronbach, 1951) was used to test the reliability of the proposed constructs while Kaiser-Meyer-Olkin (KMO) Test was used to measure validity.

Reliability Test

The minimum acceptable value of Cronbach alpha was set at 0.7 for a measurement scale to be considered reliable, while a measurement scale with an alpha value greater than 0.9 was

considered very good (Churchill & Peter, 1984). The results for reliability are as shown in Table 3.3.

Table 3.3: Reliability Test

Variables	Cronbach Alpha	Remark
Health Insurance choice	0.825	Reliable
Sources of Health financing	0.881	Reliable
Factors influencing uptake	0.902	Reliable
Uptake of Health Insurance	0.848	Reliable

The findings in the table above show that cronbach's alpha for all the items were above 0.7 indicating that the instrument was adequately reliable for measurement and therefore were acceptable. Since all the variables measured had a cronbach's alpha above 0.7, they were all reliable and thus accepted.

Validity Test

The average response rate for each variable was used in the test. The rule of thumb is that if KMO value is more than 0.4 and the P-value of Sphericity is less than 0.05, then the statements are valid; it measures what its purports to measure. Results are presented in Table 3.4.

Table 3.4: Construct Validity

Variable	KMO Value	Sphericity
Health Insurance choice	0.501	0.023
Sources of Health financing	0.519	0.015
Factors influencing uptake	0.490	0.048
Uptake of Health Insurance	0.406	0.004

Results that Health Insurance choice had a KMO value of 0.501 and Barlette's test of sphericity of 0.023<0.05 and thus the statements are valid, and it measures what its purports to measure.

Sources of Health financing had a KMO value of 0.519 and Barlette's test of sphericity of 0.015<0.05 and thus the statements are valid/it measures what its purports to measure. Factors influencing uptake had a KMO value of 0.490 and Barlette's test of sphericity of 0.000<0.05 and thus the statements are valid/it measures what it purports to measure. Lastly, Uptake of Health Insurance had a KMO value of 0.406 and Barlette's test of sphericity of 0.004<0.05 and thus the statements are valid and measures what they purport to measure. In conclusion, all the variables met the minimum KMO value of 0.4 and Barlette's test of sphericity of <0.05 and thus they were valid.

3.10 Data Collection Method

Data collection tools used to capture quantitative data in the study was structured questionnaires administered among the informal sector workers and for qualitative data interview guides were used among the key informants.

Quantitative data collection

Each research assistant was given ten questionnaires to administer in a day and each of the questionnaires had their unique number indicated on them. At the end of each day, the research assistants each handed in their completed questionnaires which were then checked and in case of any clarification, the research assistant were identified using their number for a discussion to clarify the issue.

Qualitative Data Collection

Qualitative data was collected to provide more in depth information on health insurance in Matuu. Key interview guides were used to collect data from leaders of the various categories of the informal sector workers, highly knowledgeable health insurance schemes managers, MOH officials/managers at the Ward public and private hospitals, clinics, nursing homes as well as faith- based facilities. The insurance scheme managers who were interviewed were

those based in County/ Regional Offices in Machakos Town since Matuu Town only had insurance agents and brokers.

Although an audio recorder was proposed to be used to record the interviews to help the researcher take note of all the information provided, all the respondents declined to give consent, so the gadget was not used. The main reason for declining the option of recording was that they viewed the audio information as evidence which could later be used against them.

3.11 Data Interpretation and Analysis

Quantitative Data Analysis

All the completed questionnaires were checked for accuracy, relevancy, timeliness, completeness and consistency before the analysis was done. All the collected data was entered in Ms Excel and then imported to SPSS version 24 for analysis purposes. Descriptive data analysis was done and categorical variables in form of frequencies and percentages was done; while numerical variables in form mean, standard deviation was done in analyzing and presenting the data. Chi-squares and logistic regression was done to measure the association between medical insurance scheme uptake and the independent variables.

Qualitative Data Analysis

Qualitative data from key informants was manually analyzed and then grouped into themes and sub-themes. This was then triangulated with findings from the questionnaires; all direct quotes and narrations were recorded inform of parentheses and coded.

3.12 Ethical Consideration

The researcher sought for ethical clearance from Mount Kenya University, Institutional Ethics Review Committee (IERC) and was granted. The Researcher further applied for and was granted the requisite Permit from NACOSTI, License Number NACOSTI/P/19/731. While in the field, at the County Level in Machakos, the Researcher sought for permission from the

Office of the County Commissioner, Office of the County Director of Education and County Department of Health. Letter of Authorization was given by each of the offices. While in Matuu, the study area, the area administration was visited and informed of the study in the area. Copies of the letters from the County level and also from the university were deposited in the offices, the basis of which the researcher was allowed and facilitated collection of data. The participation was voluntary. The respondents were guaranteed confidentiality of the information given by ensuring that their name was not sought and did not appear on the form. In addition, the collected Data was only used for purposes of the research. Consent was sought from all the respondents upon full disclosure by the Researcher. The respondents signified their consent by signing a consent form before the interview was conducted. Participants were given the possibility of withdrawing from the interview at any time in the event they were not comfortable continuing with the interview. Consideration was given to those who gave consent for the study.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results obtained from the primary qualitative and quantitative data collected in accordance with the methodology laid down in chapter three. The quantitative survey had an anticipated sample size of 202 respondents. A total of 198 respondents participated in this study giving a response rate of 95%. The KII targeted 9 respondents with a 100% response.

The bivariate and the univariate data were categorised and analysed separately then compared and evaluated to arrive at objective conclusions. In analysing the bivariate data, the researcher identified and made sense of the correlation while the univariate data was distributed in form of range, frequency, percentages and mean.

4.2 Demographic and socio economic information of respondents

This study presents demographic and socioeconomic characteristics (age, marital status, religious affiliation, education level, business ownership and income levels) of the respondents as follows:

4.2.1 Demographic and socioeconomic characteristics

The section presented the demographic and socioeconomic characteristics as shown in Table 4.1.

Table 4.1: Demographic and socio economic characteristics of respondents

Variables	Frequency	Percent (%)
Gender		
Male	116	59
Female	82	41
Age distribution		
18-24 years	52	25.8
25-30 years	53	27.3
31-35 years	33	16.7
36-40 years	29	14.6
41-45 years	14	7.1
Above 45	14	7.1
Marital status		
Married	118	56.6
Single	83	41.4
Separated	1	0.5
Divorced	1	0.5
Widows/widowers	2	1.0
Education level		
Primary	33	17
Secondary	122	62
Tertiary	32	16
University	10	5
Other	1	
Religious affiliation		
Catholics	50	49.5
Protestants	48	48
Islam	2	2
Others	1	0.5

As shown in the table 4.1 above, most of the informal workers interviewed during the study were male (59%) and the rest were female. Majority of the informal sector workers (69.8%) were in the age bracket of (18-35 years). As for marital status, most of the respondents (56.6%) were married while 41.4% were single. Those separated or divorced were 0.5% respectively,

while 1% were widows and widowers. Majority of the respondents were Christians (98.5%) whereas 2% were Muslims and 0.5% belonged to a religion not specified. In terms of education, most (62%) of the respondents had attained secondary education, 17% had attained primary education followed by 16% who had attained tertiary education.5% had attained university education in various fields of Study.

4.2.2: Duration of engagement in Business

Table 4.2: Duration of engagement in business

Duration	Frequency	Percent
4-6 Months	36	18.2
7-12 Months	55	27.8
Above One Year	107	54.0
Total	**198**	**100.0**

Based on Table 4.2, majority of the respondents at 54% have been in business for more than one year, while only 18.2% have been in business for between 4-6 months. Some of the informal businesses included vegetable selling, street vendors, masonry, carpentry and transport services.

4.2.3: Ownership of Business

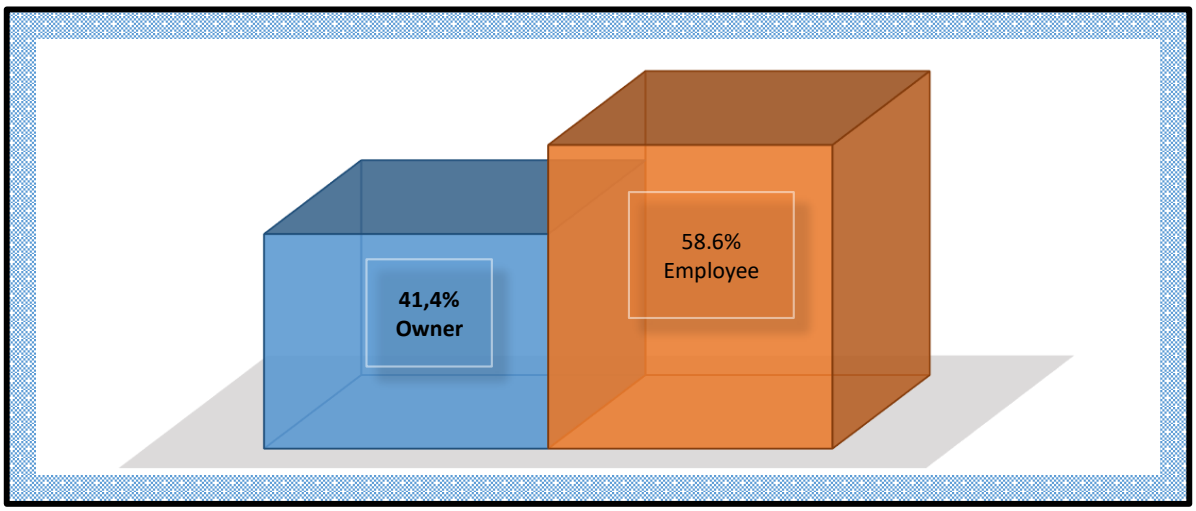


Figure 4.1 Ownership of business

As illustrated in figure 4.1, majority of the respondents (58.6%) were employees in the businesses as compared to 41.4% who were business owners.

4.2.4 Income per month

Table 4.3: Income per month

Income	Frequency	Percent
Below Kes 5,000	32	16.2
Between Kes 6,000 - 10,000	102	51.5
Between Kes 11,000 - 20,000	46	23.2
Above Kes 20,000	18	9.1
Total	**198**	**100.0**

As show on Table 4.3 above, most respondents (51.5%) earned between Kes. 6000-10000, while only 9.1% earned above Kes. 20000.

4.3 Enrolment in Medical Insurance Schemes

The first objective for this study was to establish the level of uptake of health insurance schemes among informal sector workers. This involved establishing the awareness levels, source of information on health insurance and registration/ enrolment on the Schemes.

4.3.1 Awareness on the Health Insurance

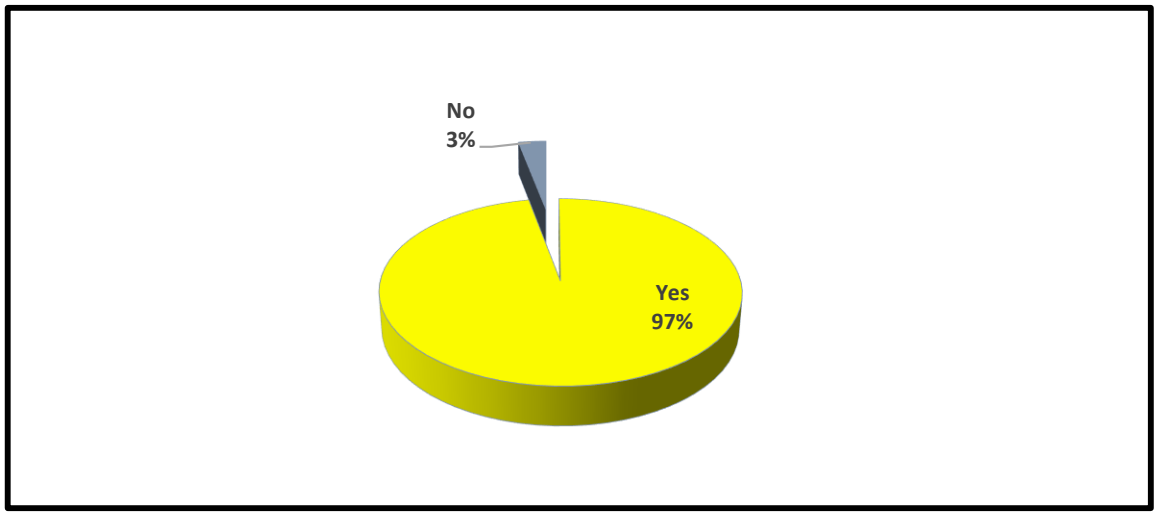


Figure 4.2: Awareness of Health Insurance schemes

Almost all of the respondents at 97% were aware of the health insurance as shown in Figure 4.2. This shows that the public have the information on the available health insurance schemes. In addition, the study found out that only 31% of the respondents were aware of the Universal Health Care (UHC) which is being piloted in Machakos County.

4.3.2 Source of Information on Health Insurance

Table 4.4: Source of information on Health Insurance scheme

Source	Frequency	Percent
Friend	79	41.1
Radio	76	39.6
TV	66	34.4
Health Professional	46	24.0
During Community Baraza	44	22.9
Other	3	1.6

The major source of information on health insurance schemes was friends as reported by 41.1% of the respondents. Moreover, 39.6% indicated that they got the information from Radio, 34.4% saw information on television, and 24% got the information from health professional, 22.9% from the community baraza while only 1.6% reported to have obtained the information from other sources.

4.3.3 Whether approached to join Insurance

The study sought to find out whether the respondents have been approached to join insurance. Most respondents at 61% agreed that they have been approached while 39% of the respondents reported that they have never been approached to join a Health Insurance Scheme.

Various Insurance providers use different methods to advertise and convince the public to enrol in their schemes. The study sought to establish the different strategies that insurance companies use to pass information to prospective clients. The respondents were asked to state who approached them to join health insurance schemes and results were as provided in figure 4.11.

4.3.4 Approach to Join Health Insurance

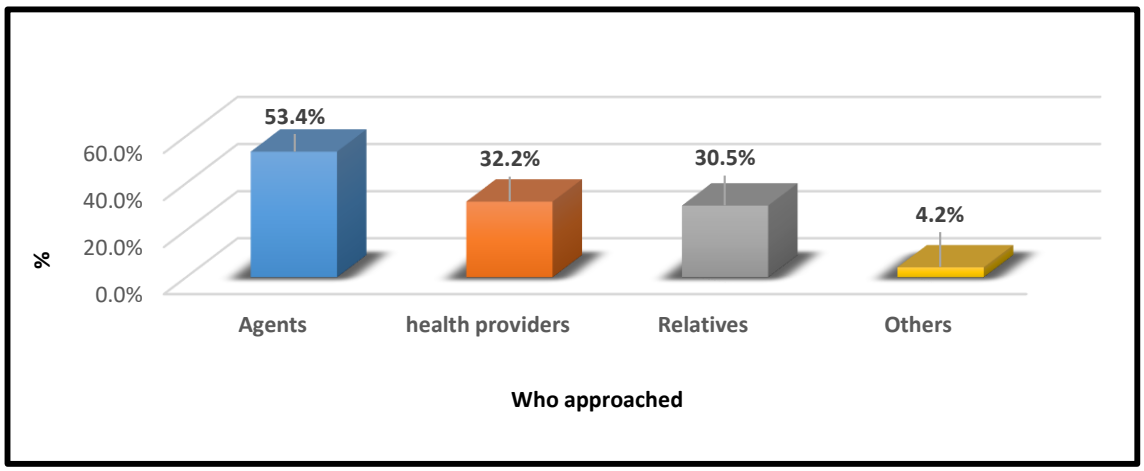


Figure 4.3: Approach to Join Health Insurance

The respondents were asked on who approached them to join Health Insurance. Agents were reported to be the main source that approached the respondents at 53.4% while a mere 4.25% reported that they were approached by others persons (not specified).

4.3.5 Awareness of the Registration process

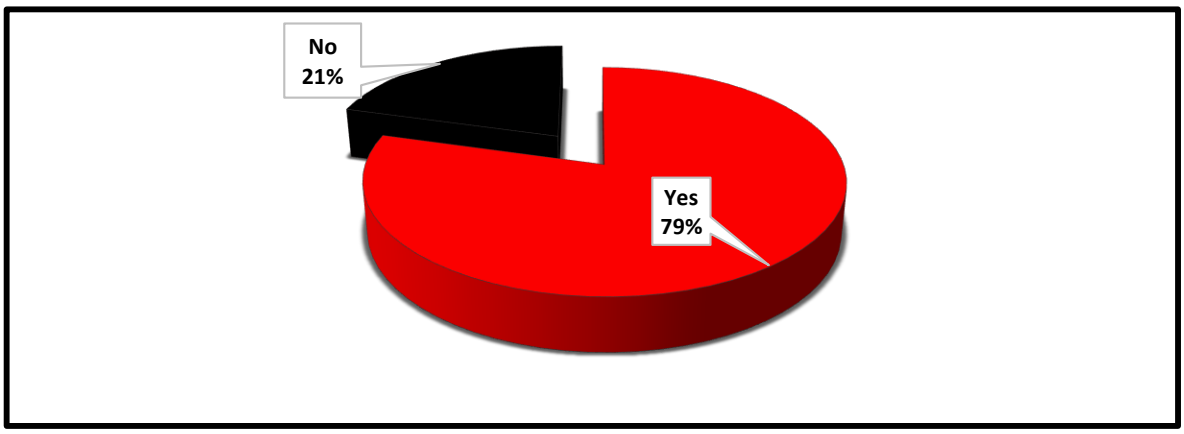


Figure 4.4 Awareness of the registration process

As shown in Figure 4.4, majority of the respondents at 79% were aware of the registration process for the health insurance.

4.3.6 Requirements for enrolment

Table 4.5: Requirements for enrolment

Requirement	Frequency	Percent
Occupation	103	66.9
Age	46	29.9
Contributor (Company/ Individual)	38	24.7
Whether covered by any other Health Insurance Schemes	24	15.6
Pre-existing Medical condition	87	56.5
Other	14	9.1

As evidenced in Table 4.5, the most reported requirement for enrolment was occupation at 66.9% followed by pre-existing medical condition at 56.5%. Further, 29.9% reported that Age was a requirement for registration and 24.7% held the opinion that contributor is a requirement for enrolling for Health Insurance. On the other hand, 15.6% of the respondents indicated that being covered by any other health insurance scheme is requirement while only 9.1% reported other issues as a requirement for enrolling in health insurance scheme.

4.3.7 Ease of requirements

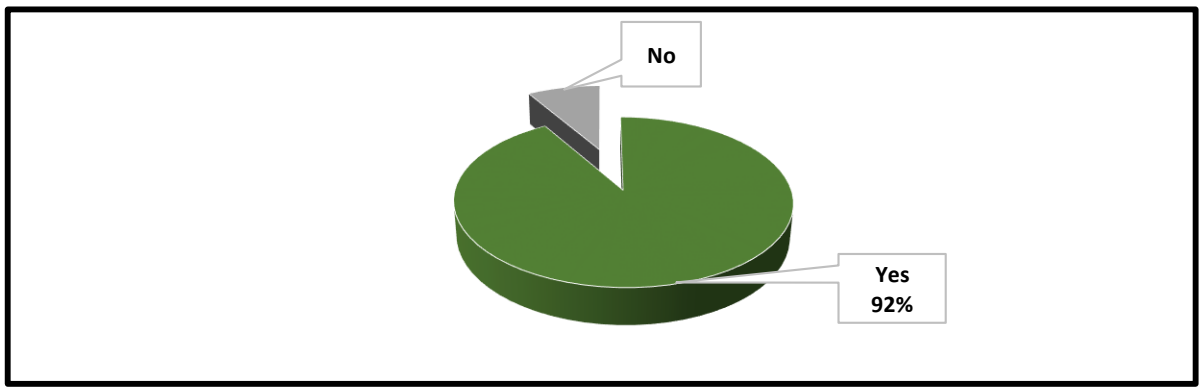


Figure 4. 5 Ease of requirements

As indicated in Figure 4.5, a majority of the respondents (92%) reported that the requirements for enrolling into health insurance scheme were easy to fulfill whereas only 8% of the respondents reported that the requirements for enrolling for the health insurance are not easy.

4.3.8 Uptake of Health Insurance Schemes

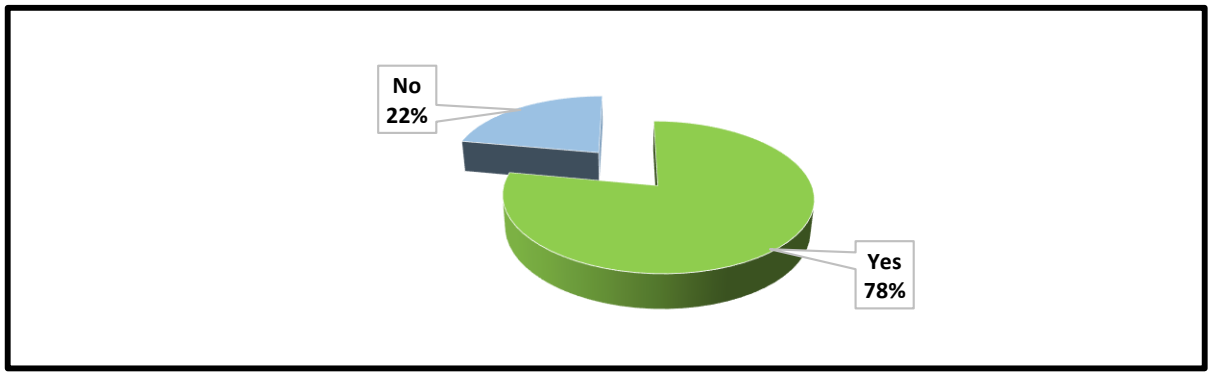


Figure 4.6: Have you enrolled for Health Insurance

The results in Figure 4.6 indicated that majority of the respondents (78%) stated that they were currently enrolled in at least a health insurance scheme.

4.3.9 Time of enrolment in the Insurance

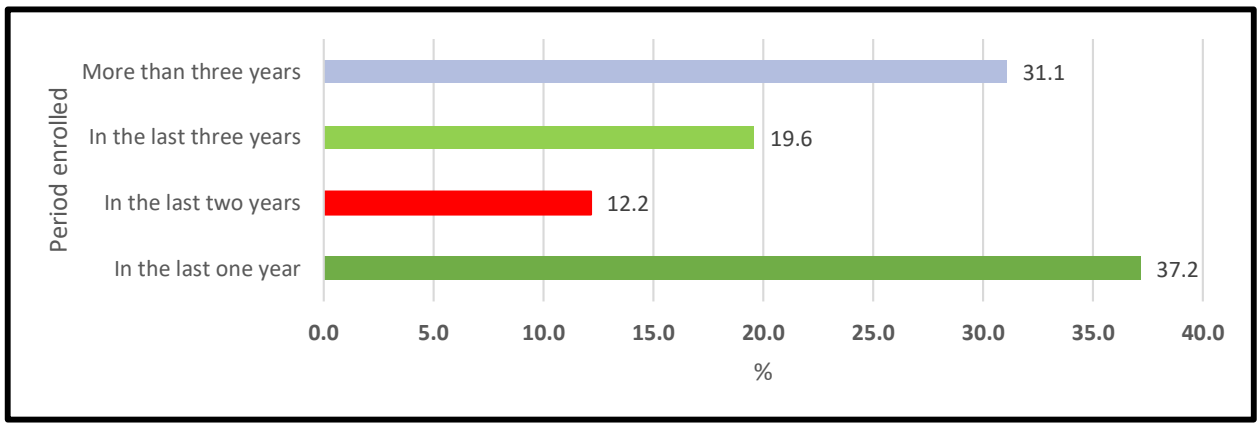


Figure 4.7 Enrolment in the Insurance

The results indicated that majority joined the insurance in the last 1 year at 37.2%. Over two thirds of the respondents joined health insurance schemes in the last three years (68.9%) compared to only 31.1% who reported registering for health insurance schemes for more than three years.

4.3.10 Insurance Scheme registration

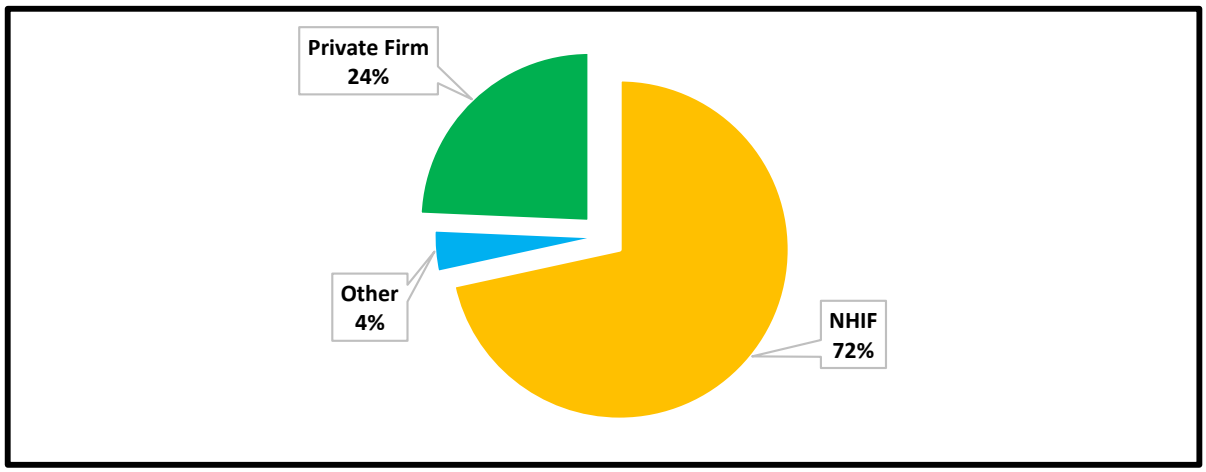


Figure 4. 8 Insurance scheme registration

A high proportion of the sampled respondents at 72% were registered with NHIF, whereas only 24% were registered by the private insurance schemes as shown in Figure 4.8.

4.3.11 Health Insurance coverage

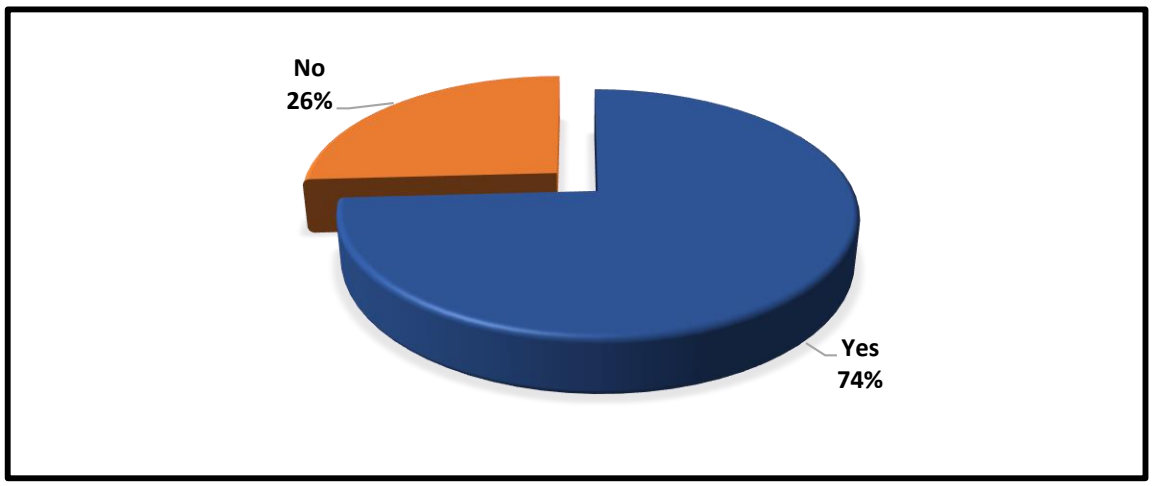


Figure 4. 9 Health Insurance coverage

Based on Figure 4.9, a majority of the respondents (74%) stated that the health insurance covered their spouses while only 26% stated that the health insurance did not cover their spouses.

4.3.12 Medical benefits from Health Insurance

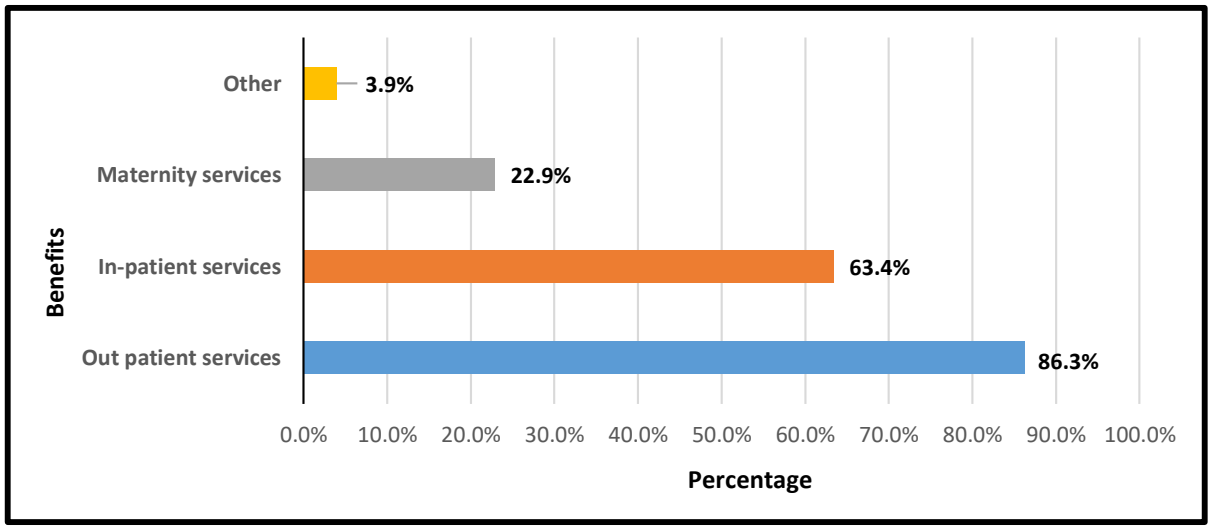


Figure 4. 10 Medical benefits from Health Insurance

Health facilities offer a range of Medical benefits for the Health Insurance. As illustrated in Figure 4.10 this study found out that 86.3% of those with health insurance get the benefit of outpatient services while only 3.9% reported that they are benefited from other services.

According to the key informants, those who have been enrolled in health insurance schemes enjoy various benefits. Some of these benefits are “services that are normally too expensive for a common person to afford”. The other benefits are:

“*in-patient cover catering for the bed rest accommodation, Medication, Doctor's charge, Surgical and also various other Health care methods; Out- patient cover, which includes General Examination, diagnosis and therapy of popular ailments, Laboratory examinations including Antenatal profiling, Health Education and learning, Wellness and Coaching; regimen screening for conditions including Cervical and Prostate Cancer cells and minor Surgical services; and Maternity deal with consisting of each regular delivery and also caesarean segment*." (Matron accountable of medical center; KII, 2019)

Moreover, according to representatives of NHIF interviewed as part of the KIIs,

“*the cover further includes specialized diagnostic tests which includes Ultrasound, Magnetic Resonance Imaging (MRI) and Computed Tomography (CT scans); Kidney Renal Dialysis which is actually covered per family and suitable for Inpatient and also Hospital take care of pre-dialysis and also intra-dialysis care; Renal transplant that is applicable for each nearby and also foreign therapy; pre-transplant, intra-transplant and urgent article- transplant inpatient care as well as Medical facility remain for contributors. Surgical package deals including primary, minor and specialist surgeries; treatment for drug as well as addiction; Oncology/Cancer treatment used in details NHIF employed facilities; specialized Research laboratory assesses carried out at level E and also F Medical facilities; pre-authorization of task is demanded for this exam to be carried out as well as Emergency Ambulance Rescue including Road Ambulance Rescue*.” (Matron in charge of hospital, KII, 2019)

4.4 Sources of Health Financing

The second objective sought to establish the sources of financing for health insurance and for those who are not enrolled to health insurance schemes, their source of funding for medical costs.

4.4.1 Payment for Health Insurance

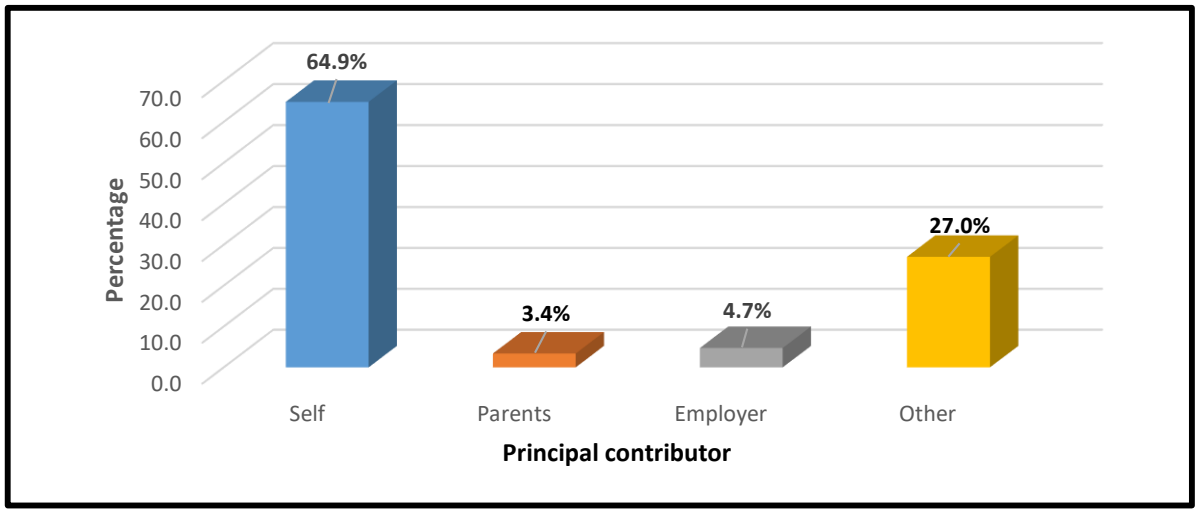


Figure 4.11 Principal contributor to health Insurance

Majority of the respondents (64.9%) reported that they pay for the health insurance themselves, 27% reported that other people pay for their health insurance, 4.7% reported that their employers pay for their health insurance and only 3.4% reported that their parents pay for the health insurance as illustrated in Figure 4.11.

4.4.2 Frequency of payment

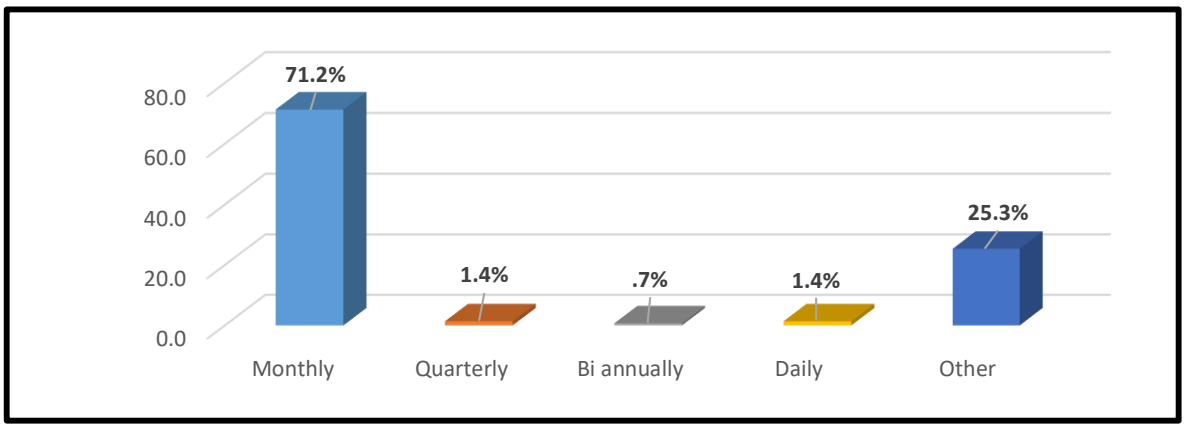


Figure 4.12 Frequency of payment

A high proportion of the respondents at 71.2% reported that they pay for the health insurance on a monthly basis, 25.3% pay when they have money to pay (not after a specific timeline), 1.4% quarterly, 1.4% daily and only 0.7% on a biannually basis (Figure 4.12).

4.4.3 Payment options

The study sought to find out the method used to pay for the health insurance and the findings were as per Figure 4.13 below:

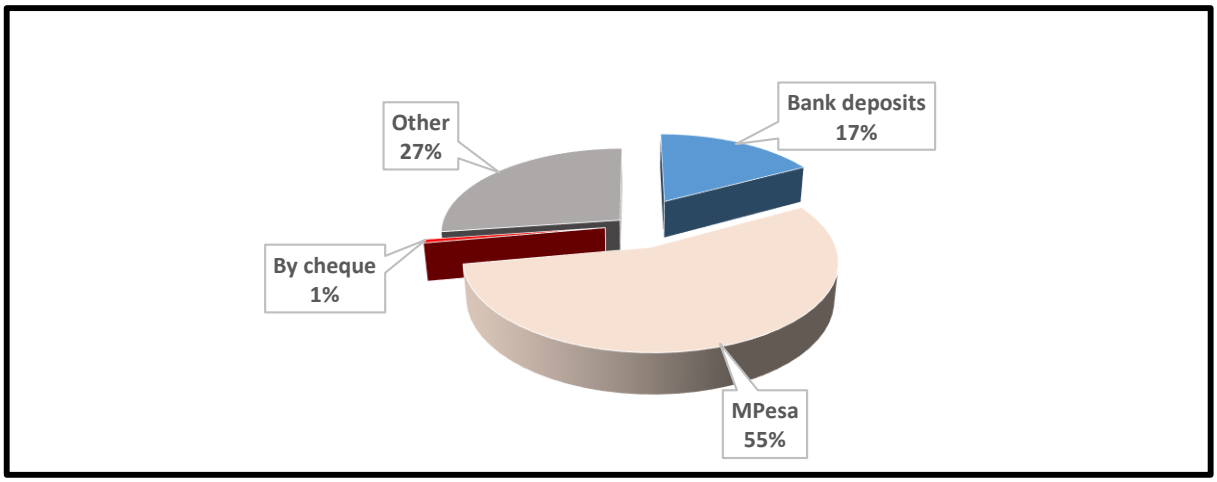


Figure 4. 13 Payment options

A high proportion of the respondents (55%) reported that they pay for their premium via M-Pesa. 27% indicated that they pay via other options while 17% indicated that they pay through bank deposits. Only 1% reported that they pay for their premiums via cheque.

4.4.4 Whether still enrolled with the Health Insurance

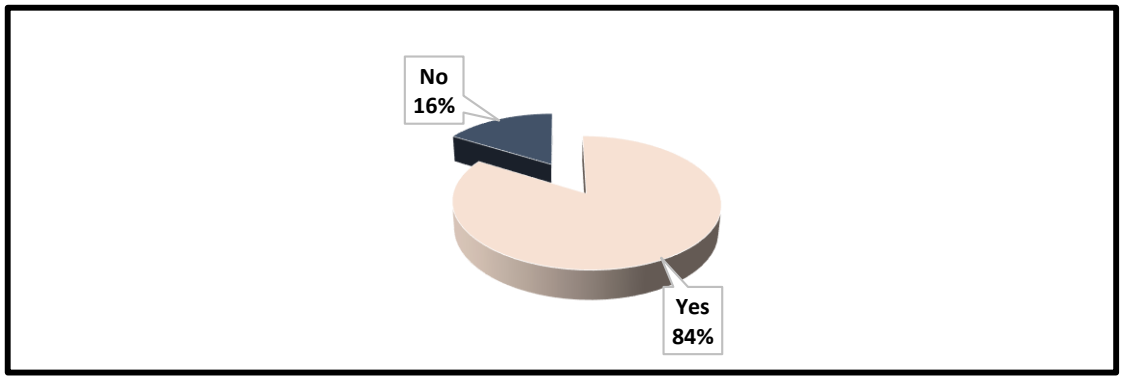


Figure 4. 14 Are you still enrolled with the Health Insurance

As shown on Figure 4.14 a great proportion (84%) of the respondents confirmed that they are still enrolled with a health insurance. Only 16% reported that they had withdrawn their enrollment with the health insurance schemes.

4.4.5: Duration without enrolment

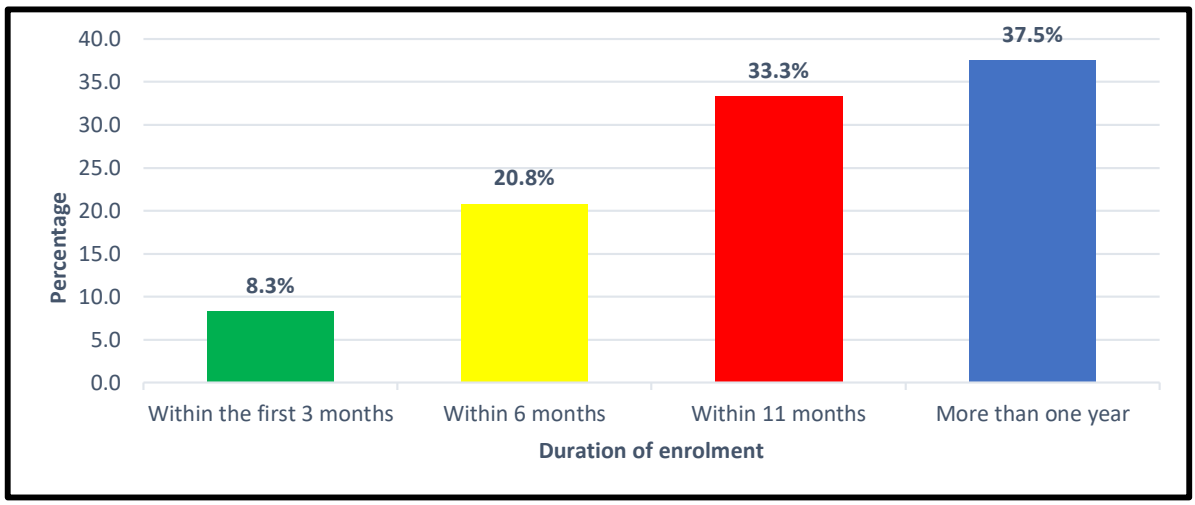


Figure 4. 15 Duration without enrolment

As illustrated in Figure 4.15, 37.5% of the respondents indicated that their enrolment stopped more than one year. Another 33.3%, indicated that their enrolment to a health insurance stopped within eleven months, 20.8% within six months while only 8.3% within the past three months.

4.4.6 Reasons for stopping payments

Table 4.6: Reasons for stopping payments

Reasons	Frequency	Percent
Lost main source of income	10	41.7%
Insurance premiums increased	6	25.0%
Business performance doing badly	4	16.7%
Others	6	25.0%

Based on Table 4.6, the major reason for stopping payments was loss of main source of income as reported by 41.7%. A quarter of the respondents 25% reported that they stopped paying due to the increased premiums and the other 25% reported that they stopped paying due to other

reasons whereas 16.7% indicated that they stopped paying due poor performance of their businesses.

Information from KIIs provides additional view on why some residents stopped payment of the monthly instalments. A number of residents stopped paying the monthly subscriptions since the introduction of Universal Health Care (UHC) which is being piloted in the County. The Matron in the Matuu Level 4 Hospital stated;

> *"Since UHC was piloted in November 2018, most of the residents have the UHC cover, some have the NHIF and a few have Medical cover from Britam and APA".*

4.4.7 Facilities for Health Services

The respondents were asked on the health facilities they can get services from and the results are as shown in Figure 4.16.

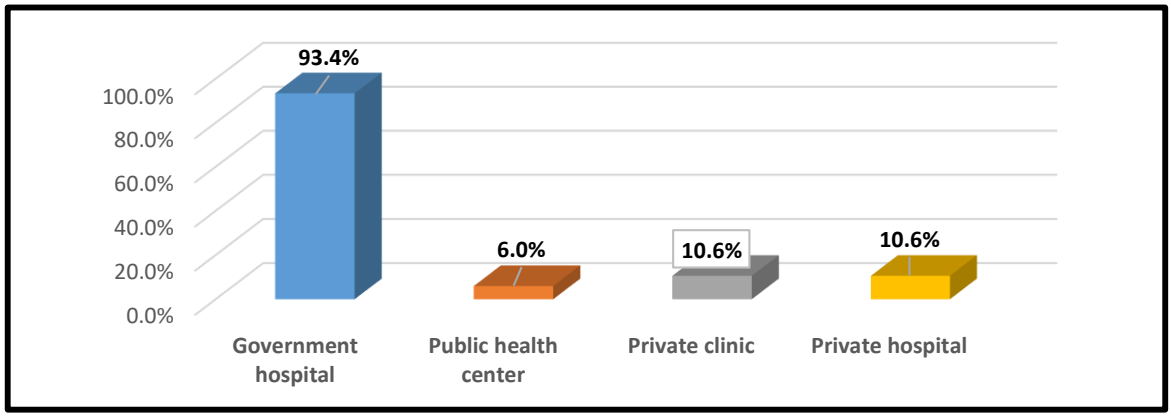


Figure 4.16 Facilities for Health Services

Based on Figure 4.16, a majority of the respondents at 93.4% indicated that they can get services from government hospitals. 10.6% reported that they get services from private clinics and hospital while only 6% indicated that they get services from the public health Centres.

According to the KII response, the UHC users can only get services from public facilities because the program does not include the private facilities. The mission hospital in Matuu also does not offer services for those intending to pay through insurance cards. According to the

Hospital Administrator, the facility has been trying to have accreditation from NHIF but the process has taken so long without any feedback. This delay in obtaining approval has led to limited services at the hospital since some people have been locked out.

'*NHIF has been slow in approving our accreditation so we are limited to people who can pay cash*'. (Nurse in charge, mission hospital, KII 2019)

4.4.8 Sick Family member without health insurance

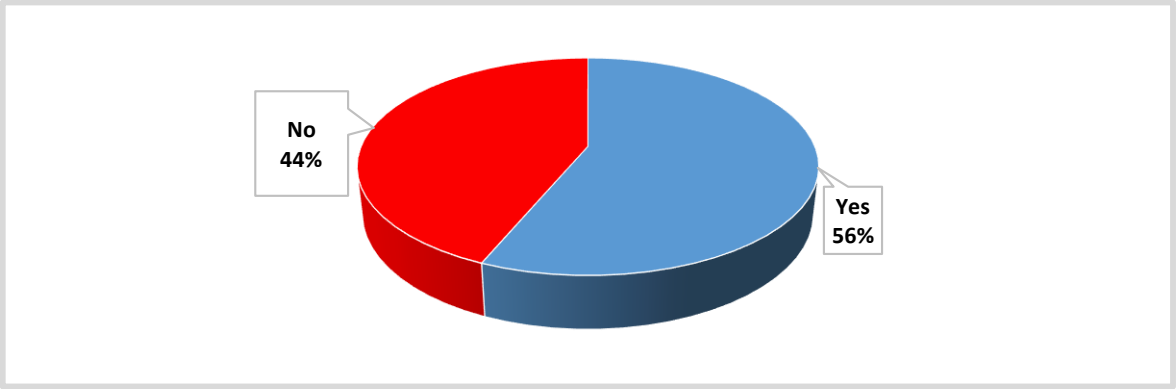


Figure 4. 17 Sick Family member without health insurance

The study found out that 56% of the respondents had a member of their families getting sick without health insurance while 44% reported that none of their family members had fallen sick in the last one year.

4.4.10 Reason for not using Health Insurance

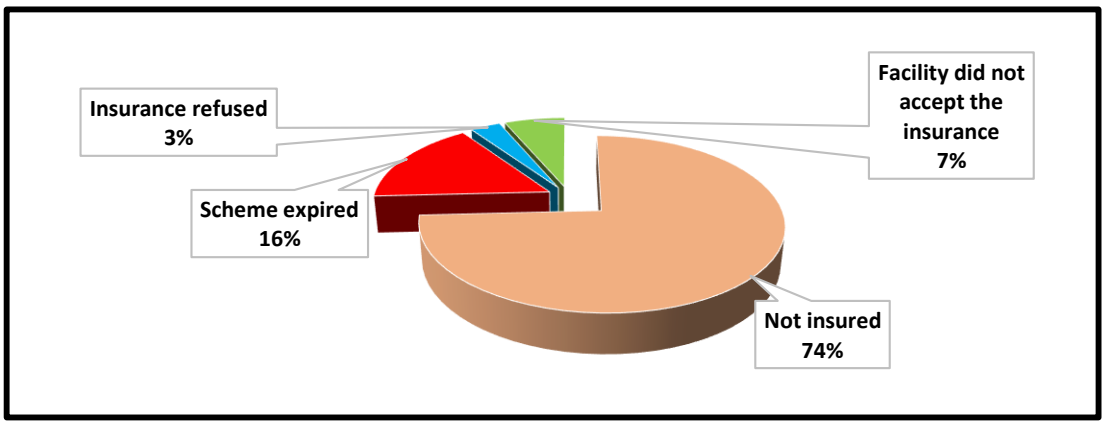


Figure 4.18 Reason for using Health Insurance

As shown in Figure 4.18, the results on the proportion without insurance indicated that majority 74% did not use health insurance because they were not insured. Further, 16% of the respondents were not able to use health insurance because the insurance had expired. In addition, 7% did not use their health insurance because the facilities did not accept the insurance and another 3% reported that they were not able to use health insurance because the insurance refused.

Nonetheless, as noted from the KII interviews, an Officer at the hospital said that;

''Most health facilities would prefer the population having health insurance as opposed to out of pocket expenditure. This is because with health insurance it guarantees them payment as most of the time, they are required to offer waivers for the neediest patients who are not able to afford the costs. She further said that health insurance can be used as a means of social protection especially for the vulnerable population'' (Officer in hospital KII)

4.5 Factors that influence uptake of Health Insurance Scheme

The third and final objective of this study sought to explore the factors influencing the uptake of health insurance schemes among informal sector workers.

4.5.1 Gender and Uptake of Insurance

Table 4.7: Uptake of health insurance by gender

Crosstab

		What is your gender?		Total
		Male	Female	
Have you ever been enrolled in any health insurance scheme?	Yes	85	63	148
	No	27	15	42
Total		112	78	190

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.635[a]	1	.426
Continuity Correction[b]	.383	1	.536
Likelihood Ratio	.642	1	.423
Fisher's Exact Test			
Linear-by-Linear Association	.632	1	.427
N of Valid Cases	190		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 17.24.

b. Computed only for a 2x2 table

The Pearson Chi-Square value is 0.426 which is larger than the critical 0.05. We therefore conclude that gender has no significant effect on uptake of insurance.

4.5.2 Age and Uptake of Insurance

Table 4. 8 Uptake of health insurance by age

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	45.880[a]	34	.084
Likelihood Ratio	53.208	34	.019
Linear-by-Linear Association	17.409	1	.000
N of Valid Cases	188		

a. 57 cells (81.4%) have expected count less than 5. The minimum expected count is .22.

The Pearson Chi-Square value is 0.084 which is larger than the critical 0.05. We therefore conclude that age has no significant effect on uptake of insurance.

4.5.3 Marital Status and Uptake of Insurance

Table 4. 9: Uptake of health insurance by marital status

Crosstab							
		What is your marital status?					Total
		Married	Single	Separated	Divorced	Widow/ widower	
Have you ever been enrolled in any health insurance scheme?	Yes	99	46	1	1	1	148
	No	10	32	0	0	0	42
Total		109	78	1	1	1	190

Chi-Square Tests			
	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	27.652[a]	4	.000
Likelihood Ratio	28.297	4	.000
Linear-by-Linear Association	14.023	1	.000
N of Valid Cases	190		

a. 6 cells (60.0%) have expected count less than 5. The minimum expected count is .22.

The Pearson Chi-Square value is 0.000 which is less than the critical 0.05. We therefore conclude that marital status has a significant effect on uptake of insurance.

4.5.4 Level of Education and Uptake of Insurance

Table 4. 10 Uptake of health insurance by level of education

Crosstab							
		What is your education Level?					Total
		Primary	Secondary	Tertiary	University	Other	
Have you ever been enrolled in any health insurance scheme?	Yes	28	86	26	7	1	148
	No	4	33	4	1	0	42
Total		32	119	30	8	1	190

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.955[a]	4	.203
Likelihood Ratio	6.514	4	.164
Linear-by-Linear Association	.176	1	.675
N of Valid Cases	190		

a. 3 cells (30.0%) have expected count less than 5. The minimum expected count is .22.

The Pearson Chi-Square value is 0.203 which is more than the critical 0.05. We therefore conclude that level of education has no significant effect on uptake of insurance.

4.5.5 Income Level and Uptake of Insurance

Table 4. 11 Uptake of health insurance and income levels

Crosstab

		How much approximately do you earn in a month?				Total
		Below Ksh 5,000	**Between Ksh 6,000 - 10,000**	**Between Ksh 11,000 - 20,000**	**Above Ksh 20,000**	
Have you ever been enrolled in any health insurance scheme?	Yes	25	70	38	15	148
	No	7	26	7	2	42
Total		32	96	45	17	190

Chi-Square Tests

	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	3.559[a]	3	.313
Likelihood Ratio	3.750	3	.290
Linear-by-Linear Association	1.768	1	.184
N of Valid Cases	190		

a. 1 cells (12.5%) have expected count less than 5. The minimum expected count is 3.76.

The Pearson Chi-Square value is 0.313 which is more than the critical 0.05. We therefore conclude that income level has no significant effect on uptake of insurance.

4.5.6 Presence of illness

Table 4.12: Uptake of Insurance by illness

			Have you ever been enrolled in any Health Insurance scheme?		
			Yes	No	Total
Presence of illness	Yes	N	87	20	107
		%	81.3%	18.7%	100.0%
	No	N	60	22	82
		%	73.2%	26.8%	100.0%
Total		N	147	42	189
		%	77.8%	22.2%	100.0%

The respondents were asked if they had a family member who had illness. This was meant to inform whether people are influenced to take up health insurance schemes to cater for chronic/long term ailments. From the study, 81.3% of those whose family members had illnesses had enrolled in health insurance. Moreover, 73.2% of those who had no illness in their family had also enrolled.

4.5.7 Perception on Health Insurance

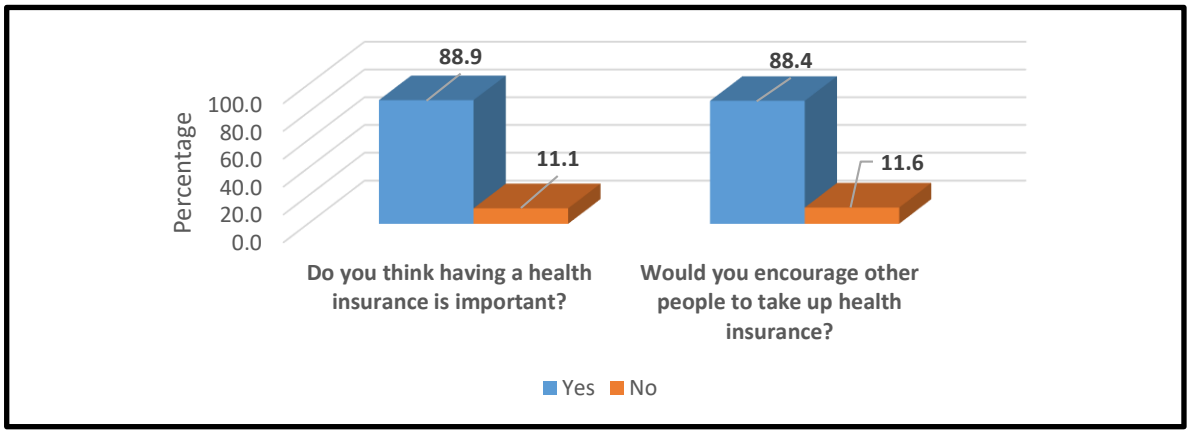


Figure 4.19: Perception on Health Insurance

In terms of rating the importance of health insurance, a high proportion of the respondents at 88.9% agreed that having the health insurance is important while only 11.1% of the respondents reported that having health insurance was not important. On the other hand, overwhelming 88.4% of the respondents reported that they would encourage other people to take health insurance while only 11.6% reported that they wouldn't encourage other people to take up health insurance as illustrated in Figure 4.19.

4.6 Regression Analysis

A multinomial logistic regression analysis was conducted to establish the variables that significantly informed health insurance schemes uptake by the informal sector workers. The results are as depicted in Table 4.13.

Table 4.13: Regression Outputs

UPTAKE OF INSURANCE [a]	B	Std. Error	df	Sig.	Exp (B)
GENDER					
Male	0.775	0.469	1	0.099	2.523
Female	0[b]				
MARITAL STATUS					
Married	-14.47	0.498	1	0.000	3.517
Widow/ widower	-16.119	0.000	1	0.210	2.423
Separated	0.947	6886.887	1	0.430	2.385
Divorced	1.857	6886.887	1	0.350	1.536
Single	0[b]		0		
RELIGION					
Protestant	0.188	1.609	1	0.907	2.287
Catholic	0.7	1.609	1	0.664	2.174
Islam	0[b]		0		
LEVEL OF EDUCATION					
University	-0.496	7281.956	1	0.001	5.245
Tertiary	-0.664	7281.956	1	0.944	4.386
Secondary	-1.597	7281.956	1	0.932	2.125
Primary	0[b]		0		
INCOME					
Above Ksh 20,000	0.235	0.978	0	0.012	6.743
Between Ksh 11,000 - 20,000	0.104	0.973	1	0.915	1.826
Between Ksh 6,000 - 10,000	0.443	0.968	1	0.647	1.063
Below Ksh 5,000	0[b]		0		
AWARENESS OF INSURANCE					
Aware of Insurance	0.574	0.983	0	0.000	8.266
Not Aware of Insurance	0[b]		0		
BUSINESS DURATION					
Above one year	1.796	0.381	0	0.004	5.267
7-12 months	1.019	0.576	1	0.077	3.279
4-6 months	0.242	0.771	1	0.754	1.281
1-3 months	0[b]		0		
BUSINESS POSITION					
Owner	0.735	0.580	1	0.021	7.631
Employee	0[b]		0		

The results in Table 4.13 indicates that under gender, the odds of the male informal sector workers taking insurance is 2.523 higher than the female informal sector workers. Under marital status, results indicated that the odds of the married informal sector workers taking insurance is 3.517 higher than the single informal sector workers. In addition, the odds of the Widow/ widower informal sector workers taking insurance is 2.423 higher than the single informal

sector workers. The odds of the separated informal sector workers taking insurance is 2.385 higher than the single informal sector workers. Lastly, odds of the divorced informal sector workers taking insurance is 1.536 higher than the single informal sector workers. In comparison with the single informal sector workers, the married had the highest odds followed by the widow/ widower and separated while divorced had the least odds.

On religion, the results indicated that the odds of the Protestants faith informal sector workers taking insurance is 2.287 higher than the Islam faith informal sector workers. The odds of the catholic faith informal sector workers taking insurance is 2.174 higher than the Islam faith informal sector workers. Under the level of education, the results indicated that the odds of University level informal sector workers taking insurance is 5.245 higher than the primary level informal sector workers. The odds of tertiary level informal sector workers taking insurance is 4.386 higher than the primary level informal sector workers. Lastly, the odds of secondary level informal sector workers taking insurance is 2.125 higher than the primary level informal sector workers.

On income level, the results indicated that the odds of informal sector workers earning above Ksh 20,000 taking insurance is 6.743 higher than the informal sector workers earning below Ksh 5,000. The odds of informal sector workers earning between Ksh 11,000 - 20,000 taking insurance is 1.826 higher than the informal sector workers earning below Ksh 5,000. Lastly, the odds of informal sector workers earning between between Ksh 6,000 - 10,000 taking insurance is 1.063 higher than the informal sector workers earning below Ksh 5,000. On the awareness of insurance among the informal sector workers, the results indicate that the odds of the informal sector workers insurance awareness taking insurance is 8.266 higher than informal sector workers with no insurance awareness.

Under business duration, the results indicated that the odds of the informal sector workers with above one year in business taking insurance is 5.267 higher than the informal sector workers

with 1-3 months in business.The results further indicated that the odds of the informal sector workers with 7-12 months in business taking insurance is 3.279 higher than the informal sector workers with 1-3 months in business. The odds of the informal sector workers with 4-6 months in business taking insurance is 1.281 higher than the informal sector workers with 1-3 months in business. Under business position, the results indicated that the odds of the business owner taking insurance is 7.631 higher than the employees' informal sector.

4.7 Discussion of the Findings

The study sought to assess the level of current uptake of health insurance among informal sector workers in Matuu, Machakos County. Study findings established the sources of money paid for health services, payment options and frequency of payments and identified factors that influence uptake of medical insurance plan amongst informal sector workers. Findings on the uptake of the health insurance by informal workers was very important in responding to the research inquiries in this particular research study. The research determined that 78% of the participants were enrolled in a medical insurance. This contradicts the research by Duku et al, (2019) which located that merely 34% of the Kenyan population had registered with an insurance scheme. Most of the respondents 72% were registered with NHIF. The enrolment with private insurance schemes was minimal at only 4%. This confirms the study by (Chuma & Okungu, 2020) that private health insurance companies are expensive and cover only less than 2% of the population. In addition, only 31% of the respondents were aware of the Universal Health Care (UHC) which is being piloted in Machakos County.

In regards to the second objective which sought to establish the sources of health financing, most of the respondents paid for the health insurance premiums using their incomes. Those who were not insured were required to pay for the medical bills of their patients using out of pocket financing. This was however not easy; as some of the bills would be so high requiring help from other quarters. The study further established that some sought the help of friends and relatives

while others organized for fund raisers to raise the amounts required. Due to various reasons, some of the respondents (16%) reported withdrawing their membership to the health insurance schemes. Lack of money was the general reason for failing to pay for the premiums. As reported by 41.7% that they had lost their main source of income, a quarter of the respondents stopped paying due to the increased insurance premiums and another 16.7% indicated that they stopped paying due to poor performance of their businesses. This supports the findings on study carried out in Kibera in 2012 by Muketha who noted that 50.4 per cent of respondents lacked funds to enrol in health insurance while 21.1 per cent said that NHIF and other health insurance schemes (HIS) offices are not accessible. In addition, it also confirms that the study that some of the reasons include high premiums that are not affordable vis-à-vis income, inability to obtain credit (Behrman & Knowles, 2019). The fact that majority of the respondents (58.6%) were employees in the businesses and earning very low incomes informs the high levels of non-payment of subscriptions.

The study further established that some respondents had withdrawn their enrollment with the health insurance schemes due to introduction of UHC where members of NHIF and other health insurance schemes found no reason to be enrolled in two schemes. According to (Deloitte, 2019), NHIF determined 30% of all members are dormant and considerably a greater number amongst the informal sector. The greater levels of dormancy are due to the informal sector members consuming thirty three% of the money received and providing only 5% for contributions (Deloitte, 2019).

The third objective of the study was geared to establishing the factors that influence the uptake of Health Insurance schemes. With regard to this, the study focused on factors such as age, gender, marital status, education levels, income and presence of illness in the family. The results showed that those who had enrolled in health insurance schemes were male (57.4%) compared to female (42.6%). Besides, Youths were more enrolled in Health Insurance Schemes (66.2%)

compared to other Adults above the Age of 35 Years (33.8%). However, studies have been differing on the influence of Age and Gender on the uptake of Health Insurance. The study findings confirm the findings of Jutting (2020) who found out that being young increases the probability of enrolling in a Health Insurance Scheme. However, this finding contradicts that of Mwaura (2019) who observed that advanced Age increased the probability of enrolling in a Health Insurance Scheme.

Most of those who had enrolled in health insurance schemes were actually married. This adhered to some of the previous researches where participants who had tied the knot were most likely to be covered (Trujillo, 2021; Liu et al, 2020). In terms of education and knowhow, the findings presented no remarkable association between the level of education of the participants and uptake of health plan schemes. This accepts an investigation study through Nyagero *et al*., (2019) which revealed no noteworthy institution between learning level of respondents and enrolment in health insurance plan body. Previous research studies by Osei-Akoto and Adamba (2019) showed that the incredibly informed were actually a lot more; most likely to acquire medical insurance than the less educated. Further, the results showed an insignificant correlation between income levels and uptake of Health Insurance. This finding, however, contradicted some other studies such as (Osei-Akoto & Adamba, 2019; Macharia et al, 2017) who noted a positive association with the uptake of health insurance. On the other hand, 81.3% of those whose family members had illnesses had enrolled in health insurance.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

The chapter gives a summary of the study, draws conclusion and makes recommendations and suggestion for further research.

5.2 Summary

The purpose of this study was to examine the uptake of health insurance amongst informal sector workers in Kenya. The research findings indicated similarity in the amounts of male and female business owners with the majority of participants aged between 18 -30 Years. Majority were being secondary school leavers. Many of the participants were employees and also got a month-to-month revenue of lower than 10,000 shillings. More than three quarters were enrolled in health insurance schemes especially the NHIF and some enrolled in the UHC which was being piloted in the County. Uptake of private health insurance as well as community based health insurance scheme was very low among the informal sector workers due to their lack of affordability. Lack of enrolment to the schemes was caused by high premiums charged by the insurance firms, poor service delivery in Public Health facilities and lack of incomes.

5.3 Conclusion

The study concludes that uptake of health insurance offered by NHIF among the informal sector workers is relatively high compared to that offered by private insurance firms. This is attributed to the Government's recent aggressive efforts towards improving the uptake of NHIF in the country as part of its efforts to facilitate access to Health Services for all the citizens. Machakos is one of the counties benefiting from the ongoing pilot of the Universal Health Coverage programme. However, uptake of health insurance offered by private insurance firms is still low

due to high premiums, bearing in mind that most of the informal sector workers earn very low and irregular incomes.

In regard to the second objective which sought to establish the sources of health financing, most of the respondents paid for the health insurance premiums using their incomes. The study further concluded that out of pocket financing money was used by the informal workers without insurance.

Lastly, the study concluded that the key factors influencing uptake of Health Insurance Schemes among informal sector workers was marital status. Most of those who had enrolled in health insurance schemes were married. Most of the informal sector workers deem health insurance coverage as important and feel that it should be encouraged as part of the efforts of facilitating Universal Health Coverage. Uptake of health insurance was hampered by the low quality of services offered especially in the public health facilities.

5.4 Recommendations

1. The study recommends more targeted civic education around the general awareness of insurance is required to the informal workers in Matuu. The government and insurance companies can lead this and have more targeted civic education amongst contributors and the public to improve utilization of insurance schemes and promote health care in the area.
2. The study recommends that the informal workers should enroll for insurance as it saves them money when seeking health services. Majority used out of pocket expenditure thus the need for the health insurance.
3. Government and the private sector should explore Public Private Partnership in provision of health insurance with the aim of promoting the contribution of private health insurance schemes in expanding Universal Health Coverage. The

Government should consider chipping in and subsidizing high premiums, especially for the informal sector workers, to make the subscriptions affordable.

4. The government should explore means to subsidize health insurance for the informal sector workers to encourage uptake and continuity.
5. Based on the shortcomings of the current study, the study suggest further areas for research. A study needs to be carried out to explore how private Insurance firms can participate in actualizing the Universal Health Coverage by 2030 as envisioned by the UN Global Monitoring of Universal Health Coverage. In addition, further research needs to be done on how to improve accessibility of private health insurance by informal sector workers. The other area of research that should be explored is on the premium payment system that is appropriate for the informal sector workers in making their contribution towards health insurance schemes.

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APPENDICES

Appendix I. Questionnaire

Questionnaire Consent (Individual)
Hello, my name is _____ from Mount Kenya University. We are conducting a study on factors contributing to Insurance uptake in Matuu Machakos county. The purpose of this study is to gather data that will help county and national Government to create appropriate strategies for improving Health Insurance uptake among informal workers. This survey, would involve asking questions about yourself and family, such as the number of children and what you know about medical Insurance. In this study, confidentiality is key and therefore to maintain this, your name will not be required and would not appear on the form being completed, only the information you provide. The interview is about 30 minutes. It is your choice to participate in this study. The decision is yours to opt in answering the questions, or to stop the study at any time and nothing will happen to you. In case of any questions that make you uncomfortable, kindly inform me to proceed or stop at any time in between. This study has no individual benefit to you but the information collected will be of benefit to the county and country at large. The County and the Country needs this kind of information for appropriate planning on Healthcare provision and their financing. Now I will like to know if you are ready to proceed with the survey. If yes, I will like to start the interview. Please sign this form as an agreement for the interview; Research participant: Name_____ Signature _____ Date _____

SECTION A: BIODATA

1. What is your gender?
   1) Male ( ) 2) Female ( )
2. What is your age? _____

4. Where do you live?

   1) Own rented house
   2) Parents' house
   3) Own constructed/bought house
   4) Others specify_____

5. What is your religious affiliation?

   1) Catholic
   2) Protestant
   3) Islam

Others specify_____

6. What is your education Level?
   1) Primary ( )
   2) Secondary ( )
   3) Tertiary ( )
   4) University ( )
   5) Others specify_____

7. What business are you engaged in?
   1) Fruits, vegetables, cereals ( )
   2) Clothing and shoes ( )
   3) Operating retail kiosk ( )
   4) Food and beverage ( )
   5) Vehicle, motorcycle repair ( )
   6) Furniture making, metal work ( )
   7) Transport industry: taxi, matatu ( )
   8) Motorcycle, handcart ( )

8. How long have you been engaged in this business?
   1) 1-3 months ( )
   2) 4-6 months ( )
   3) 7-12 months ( )
   4) Others specify_____

9. Are you the owner or employee in this business?
   1) Owner ( )
   2) Employee ( )
   3) Other specify_____

SECTION B: INCOME LEVEL WITHIN THE INFORMAL SECTOR

1. How much approximately do you earn in a month?
   1) Below Kshs 5,000 ( )
   2) Between Kshs 6,000-10,000 ( )
   3) Between Kshs 11,000-20,000 ( )
   4) Above Kshs 20,000 ( )
2. What is your position in the business?
   1) I am the employer ( ) 2) I am the employee ( )
3. Do you have another source of income apart from this one?
   1) Yes ( ) 2) No ( )
4. If yes, how much do you earn?
   1) Below Kshs 5,000 ( )
   2) Between Kshs 6,000-10,000 ( )
   3) Between Kshs 11,000-20,000 ( )
   4) Above Kshs 20,000 ( )
5. Do you have a partner?
   1) Yes ( ) 2) No ( )

   If no, skip the question below
6. Does your partner have a source of income?
   1) Yes ( ) 2) No ( )
7. If yes, how much does he/she earn?
   1) Below Kshs 5,000/- ( )
   2) Kshs 6,000-10,000/- ( )
   3) Kshs 11,000-20,000/- ( )
   4) Above Kshs 20,000/- ( )
8. Do you have any children 18 years and below who depend on you for Health support?
   1) Yes ( ) 2) No ( )

SECTION C: AWARENESS AND UPTAKE OF HEALTH INSURANCE

1. Are you aware of any Health Insurance schemes?

   1) Yes ( ) 2) No ( )

2. If yes, which ones do you know of?

   1) NHIF ( )

   2) Private firm, specify_____

   3) Community based Insurance scheme_____

   4) Others specify_____

3. From whom did you get to know about the Health Insurance Scheme?

   1) Health professional
   2) Radio
   3) TV
   4) Friend
   5) During community baraza
   6) Other (specify)

4. Have you ever been approached to join any Insurance scheme?

   1) Yes ( ) 2) No ( )

5. If yes, who approached you?

   a) Agents

   b) Health providers

   c) Relatives

   d) Other, Specify _____

6. Are you aware of the registration process to get a Health Insurance?

   1) Yes ( ) 2) No ( )

7. If yes, what are the requirements for enrolment?

   a. Age ( )

   b. Occupation ( )

c. Pre-existing medical condition ( )

d. Where covered by any other Health Insurance ( )

e. Contributor (Individual/company) ( )

f. Other, specify _____

8. Do you think the requirements are easy to fulfil?

1) Yes ( ) 2) Undecided ( ) 3) No ( )

9. Have you ever been enrolled in any Health Insurance scheme?

Yes No

10. When were you enrolled in the Insurance scheme?

1) In the last one year
2) In the last two years
3) In the last three years
4) Others specify_____

11. Which Health Insurance scheme were/are you enrolled with?

1) NHIF ( )
2) Private firm, specify_____
3) Community based Insurance scheme_____
4) Others specify_____

12. Who paid or paying for the medical Insurance you are enrolled in?

1) Own payment ( )
2) Parents ( )
3) Employer ( )
4) Others (specify)…….

13. Does the Health Insurance cover your spouse and children?

1) Yes ( ) 2) No ( )

14. How much were/or are the premiums per year? Amount (Ksh),,,

15. What were the frequency of payment?

1) Per Month ( )
2) Quarterly ( )
3) Bi annually ( )
4) Daily ( )
5) Weekly ( )
6) Others specify_____

16. Are you still enrolled with the Health Insurance scheme?

1) Yes ( ) 2) No ( )

17. If not enrolled, after how long (in months) did you stop the Health Insurance scheme?

1) Within the first 3 months ( )
2) Within 6 months ( )
3) Within 11 months ( )
4) Others specify_____

18. Why did you stop the Health Insurance scheme?

1) Lost main source of income ( )
2) Insurance premiums increased ( )
3) Business performance doing badly ( )
4) Because it is not compulsory ( )
5) Do not trust scheme ( )
6) Others specify_____

19. What were the payment options?

1) Bank deposits ( )
2) Mpesa ( )

3) By cheque ( )

4) Others specify_____

20. What medical benefits (services) you were/are entitled to by the scheme you were/are enrolled with?

1) Out- patient services ( )

2) In- patient services ( )

3) Maternity services ( )

4) Others specify_____

21. Which Health facilities were you or are you getting Health services from using the Insurance scheme?

1) Government Hospital ( )

2) Public Health centre ( )

3) Private Clinic ( )

4) Private Hospital ( )

22. Have you or a member of your family been sick during the last one year?

1) Yes ( ) 2) No ( )

23. Did you use the Insurance cover to meet all the related medical expenses?

1) Yes ( ) 2) No ( )

24. If not, Why?

1) Not insured

2) Scheme expired, 3) Insurance refused,

4) Facility did not accept the Insurance cards

5) Other, Specify_____

25. How did you pay for the medical expenses at the facility?_____

1) By cash,

2) Credit/ borrowed,

3) Sold property

Other, Specify _____

26. Do you think having a Health Insurance is important?

1) Yes ( ) 2) No ( )

27. Would you encourage other people to take up Health Insurance?

1) Yes ( ) 2) Undecided ( ) 3) No ( )

28. If yes, why_____

29. If No why?_____

Thank you

Appendix II. Key Informant Guide for Health Facility (Clinics, nursing homes, private and public hospitals)

Interviewee's name: _____

Position in the facility: _____

Type of facility (Public/private): _____

Category of facility: (Dispensary, clinic, Health centre, nursing home or level 4 hospital)

1. As a Health professional, what are some of the common diseases you treat in this facility?
2. How many patients do you see in a month in the facility?
3. What would you say about Health seeking behaviour among the Matuu population?
4. Are most of the informal workers in Matuu seeking Health services?
5. Do you charge for the services? How much and for what services?
6. How do most of them pay for their treatment?
7. What do you do if one is not able to pay? Is exemption for those not able to pay available? What is the procedure?
8. Would you say they are promptly seeking treatment or they come when the ailment is worse? If they are late, what could be the reasons they come late?
9. Does your facility provide Health services to clients for any Insurance company? Which ones?
10. Do most of them have a Health Insurance cover? Which is most common Insurance Company that covers people in this location?
11. What could be attributed to the uptake of Health Insurance in Matuu town?
12. If no, what could be attributed to the low uptake (barriers to uptake?
13. What challenges do you face with Health Insurance institutions in Matuu?
14. How does this affect the financing of the Health facility?
15. What are other sources of Health treatment in Matuu?
16. Are there Health Insurance outlets/offices in Matuu?
17. What recommendations would make to have people on Health Insurance cover?

Appendix III: Key informant guide for the leaders of the informal sector groups

1. How long have you been doing business in the informal sector here in Matuu?
2. How is doing business in Matuu?
3. Describe the medical facilities in Matuu and how they are able to cater for your Health needs?
4. How do workers in the informal sector, pay for medical expenses?
5. How is medical Insurance catered for in the terms of your employment?
6. How do the informal workers cope with paying for medical expenses?
7. How has this affected when and where workers seek treatment for ailments?
8. What are Insurance companies doing to enrol informal workers in medical schemes?
9. Are workers aware of medical Insurance and have they enrolled?
10. Why have they enrolled?
11. Why haven't they enrolled?
12. How do you think the enrolment to medical schemes can be improved?

Appendix IV. Key Informant Guide for Health Insurance Institutions

Insurance company_____

Interviewee name_____

Type of office Agency/brokerage/company office _____

1. How long have you had an office in Matuu/Machakos?
2. What is your target population and does it include informal sector workers?
3. As an Insurance company, which type of medical Insurance packages are you promoting to the community in Matuu especially among the workers in the informal sector?
4. What can you say about Health Insurance cover uptake among the informal workers in the town?
5. What are the requirements for a worker in the informal sector to enrol for Health Insurance cover in your company?
6. How frequent do workers from the informal sector seek information about the medical Insurance at your office?
7. What are the strategies your institution uses to promote the Health Insurance products to the community in Matuu, especially to the informal sector workers?
8. In your opinion, what could be some of the barriers to the informal workers acquiring Health Insurance?
9. Who are your other competitors in the area?
10. What recommendations do you have for improving the uptake of your products among the informal workers with Health Insurance?

Appendix V: Letter of authorization

Mount Kenya University

REF: **MKU/ERC/1162**
TO: **FARIDA ASINDUA**

Date: 19 July 2019

REG: **MPH/2017/64038**

Dear Sir/Madam,

RE: ASSESSMENT OF HEALTH INSURANCE SCHEMES UPTAKE BY THE INFORMAL SECTOR WORKERS AT MATUU, MACHAKOS COUNTY, KENYA

This is to inform you that **Mount Kenya University** has reviewed and approved your above research proposal. Your application approval number is **565.** The approval period is **19/07/2019 - 18/07/2020.**

This approval is subject to compliance with the following requirements:

i. Only approved documents including (informed consents, study instruments, MTA) will be used
ii. All changes including (amendments, deviations, and violations) are submitted for review and approval by **Mount Kenya University.**
iii. Death and life threatening problems and serious adverse events or unexpected adverse events whether related or unrelated to the study must be reported to **Mount Kenya University** within 72 hours of notification
iv. Any changes, anticipated or otherwise that may increase the risks or affected safety or welfare of study participants and others or affect the integrity of the research must be reported to **Mount Kenya University** within 72 hours
v. Clearance for export of biological specimens must be obtained from relevant institutions.
vi. Submission of a request for renewal of approval at least 60 days prior to expiry of the approval period. Attach a comprehensive progress report to support the renewal.
vii Submission of an executive summary report within 90 days upon completion of the study to **Mount Kenya University.**

Prior to commencing your study, you will be expected to obtain a research license from National Commission for Science, Technology and Innovation (NACOSTI) https://oris.nacosti.go.ke and also obtain other clearances needed.

Yours sincerely,

The Chairman
Mount Kenya University
Ethics Review Committee
P. O. Box 342 - 0100, Thika

Prof. Francis W. Muregi
Chairman, Mount Kenya University IERC

Appendix VI: Nacosti research permit

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **382450**

Date of Issue: **27/August/2019**

RESEARCH LICENSE

This is to Certify that Miss.. Farida Asindua of Mount Kenya University, has been licensed to conduct research in Machakos on the topic: Assessment of health insurance schemes uptake by the informal sector workers at Matuu, Machakos County, Kenya for the period ending : 27/August/2020.

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National Commission for Science, Technology and Innovation
off Waiyaki Way, Upper Kabete,
P. O. Box 30623, 00100 Nairobi, KENYA
Land line: 020 4007000, 020 2241349, 020 3310571, 020 8001077
Mobile: 0713 788 787 / 0735 404 245
E-mail: dg@nacosti.go.ke / registry@nacosti.go.ke
Website: www.nacosti.go.ke