ACCEPTABILITY AND WILLINGNESS TO PAY FOR UGANDA'S PROPOSED NATIONAL HEALTH INSURANCE SCHEME AMONG INFORMAL SECTOR WORKERS IN IGANGA AND MAYUGE DISTRICTS

BY

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DECLARATION AND APPROVAL

I, NOEL NAMUHANI, hereby declare that the work presented in this dissertation is my original work and that it has never been submitted to any institution of higher learning for any academic award. The works of others are quoted and appropriate references have been given.

I therefore present it to Makerere University in partial fulfillment of the requirement for the award of a Master's Degree of Public Health of Makerere University.

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DEDICATION

This dissertation is dedicated to that poor common Ugandan who is struggling to access quality health care and to all those working hard to see that Uganda achieves Universal Health Coverage.

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LIST OF ACRONYMS

CBHI	Community Based Health Insurance
CHE	Catastrophic Healthcare expenditure
CVM	Contingent Valuation Method
HI	Health Insurance
MOH	Ministry of Health
NHA	National Health Accounts
NHI	National Health Insurance
OOP	Out of Pocket
OOPE	Out of Pocket Expenditure
PCA	Principal Component Analysis
SHI	Social Health insurance
UHC	Universal Health Coverage
USD	United States Dollars
WHO	World Health organization
WTP	Willingness to Pay

OPERATIONAL DEFINITIONS

Catastrophic Health Expenditure (CHE): refers to any expenditure for medical treatment that can pose as a threat towards a household's financial ability to maintain its subsistence needs.

Community Based Health Insurance: Refers to mainly voluntary schemes where prepayment mechanisms with pooling of health risks and of funds taking place at the level of the community or a group of people who share common characteristics (WHO, 2018).

Financial risk protection: is concerned with creating mechanisms that ensure that individuals are not impoverished or thrown into 'financial catastrophe' due to out-of-pocket expenditures on health.

Health insurance: Health insurance is a mechanism of making periodic prepayments for medical care to enable the payer to obtain healthcare services when needed without paying out-of-pocket at the point of need.

Informal sector: refers to those workers who are self-employed, or who work for those who are self-employed. People who earn a living through self-employment in most cases are not on payrolls, and thus are not taxed. These include small scale farmers/peasants, fishermen, business people, *boda boda* cyclists, Taxi drivers among others.

National Health Insurance (NHI): This is a risk pooling mechanism where funding comes from general revenues and medical coverage is provided to the entire population for a fixed set of services (benefits package).

Out of Pocket Expenditure (OOPE): Direct payments made by individuals to health care providers at the time of service use (WHO, 2010).

Social Health Insurance: Social health insurance (SHI) refers to mechanisms for raising and pooling funds to finance health services, along with tax-financing, private health insurance, community insurance, and others (WHO, 2010). It is compulsory by law and the employer makes contributions on behalf of the employee.

Universal Health Coverage: all individuals and communities receive the health services they need without suffering financial hardship.

Willingness to Pay for Health Insurance: was defined as the maximum price/premium in Uganda shillings at or below which an individual will buy/pay for health insurance in a year.

Ability to pay for health insurance: This refers to the maximum amount of money someone can easily afford purchasing health insurance without sacrificing/foregoing other basic needs.

Indigents: This means someone who has no visible or adequate means of income who has no body to support him or her.

ABSTRACT

Introduction: Access to health care remains a challenge especially among the informal sector in most of the low-income countries due to out of pocket (OOP) expenditures, with Uganda spending over 40.0% out of pocket on health care. To solve this, Uganda has proposed a National health insurance scheme (NHI). However, the acceptability, willingness and ability to pay for the proposed NHI scheme within the informal sector has not been explored.

Objective: To assess the willingness to pay for the proposed NHI scheme and its determinants among the informal sector workers in Iganga and Mayuge districts

Methodology: This was a cross sectional study. It was conducted in Iganga and Mayuge districts in June 2019. A contingent valuation method using the bidding game technique was used to elicit the willingness to pay. A total of 853/781,948 informal sector workers were randomly selected to participate in the study. Six key informant interviews with health workers and 7 FGDs with informal sector workers were also conducted. Logistic regression was done to identify the determinants for willingness to pay for the proposed NHI scheme.

Results: The majority (85.2%) of the respondents would accept the proposed scheme. Most respondents (81.5%) were willing to pay for NHI, the median WTP was UGX 25,000 (USD 6.8) and 74.2% of the respondents believed that they were able to pay for health insurance. The factors that were significantly associated with WTP included; Occupation. Wealth, hearing about health insurance, use of traditional medicine and having saving group membership.

Conclusion and Recommendation: The level of acceptability and willingness to pay was high. Therefore, it is viable for MOH to introduce and extend NHI to the informal sector but with affordable premiums while ensuring that the quality of services is enhanced.

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 Introduction

Access to health care remains a big challenge especially among the informal sector in most of the low-income countries (Sarker et al., 2017, Kiwanuka et al., 2008) mainly due to out of pocket (OOP) expenditures (WHO, 2010). OOP expenditure puts about 150 million people at a risk of catastrophic healthcare costs annually driving over 100 million people into poverty worldwide (WHO, 2010). According to the World Bank, direct mode of payment for health care services constitutes 40% of health care expenditure in developing countries (World Bank, 2010). According to the National Health accounts (2016), Uganda has one of the highest out of pocket expenditure accounting for 41% of the total health expenditure in the world (MOH, 2016).

High OOPs pose financial hardships to people when accessing healthcare given the high costs associated with them. This ultimately hampers progress towards UHC, given the fact that UHC aims at ensuring that all people access quality health services they need without suffering financial hardship (WHO, 2010). OOP impoverishes people and excludes the poor and most vulnerable section of the population from accessing the services they desperately need.

In recent years, an increasing number of countries have initiated health financing reforms to address high levels of out-of-pocket payments. These include; abolishment of user fees in public health facilities; exempting specific population groups such as the poor from payments and exempting a range of health services such as maternal and child care from payments free deliveries (WHO, 2015). However, due to high costs care, lack of inadequate supplies in Health facilities and poor implementation of the various reforms have made such interventions ineffective (Onwejuke et al, 2010). Therefore, As countries work towards achieving UHC, the reduction of out of pocket (OOP) expenditures through financial protection mechanisms like health insurance are increasingly becoming a global priority (WHO, 2010).

Globally, implementation of health insurance schemes is one of the major response to addressing out of pocket payment for health care (Gottret and Schieber, 2006, WHO, 2010) in low and middle income countries. Health insurance has the ability to reduce financial barriers to health care access

and protect individuals and families against the risk of unpredictable health care expenditures, hence aiding attainment of UHC (Xu et al., 2007). This has improved access to healthcare especially in developed countries. However, willingness to enroll and pay for health insurance schemes has always been low in most of the African countries especially within the informal sector whose incomes are unpredictable (Jeong, 2010). This has resulted into low initial enrollment rates ranging from 2%-40% in most of the African countries that have rolled out health insurance schemes, with exception of Rwanda (De Allegri et al., 2006, Kyomugisha et al., 2009, Basaza et al., 2008).

The willingness to pay for the proposed NHI scheme especially within the informal sector who make 80% of Uganda's population is critical to the core risk pooling functioning of a health insurance scheme. This would translate into high enrollment rates which foster the financial sustainability of the schemes (Xu et al., 2007).

Uganda government is proposing a National Health Insurance scheme, however the willingness to pay premiums among the informal sector, has not been much explored. Therefore, this study aimed at assessing the acceptability, ability to pay, willingness to pay and determinants for willingness to pay for the proposed NHI scheme among the informal sector workers in Iganga and Mayuge districts.

1.2 Background

Uganda adopted UHC as its overall goal for the Health Sector Development Plan (HSDP (2015/16-2019/20), which aims at ensuring that all people receive essential and good quality health services they need without suffering financial hardships (MOH, 2015). However, this is threatened by the high OOP expenditure, and the high poverty levels especially among the rural communities in Uganda. This hinders millions of Ugandans from accessing quality health care services (MOH, 2017). In an attempt to improve access to quality healthcare services, Uganda has proposed a NHI (MOH, 2017).

Uganda remains the only country in East Africa that has not yet implemented NHI scheme. However, the plans to introduce the NHI in the country are in advanced stages. The process of developing the NHI started in 1995. However, the process has been slow (AGHA, 2017). In 2017, the Ministry of Finance issued a certificate of financial implication to the long-awaited Health

Insurance Bill. This gave the MOH the go ahead to proceed with the National Health Insurance (NHI) Bill 2014. The bill is currently pending re-tabling in Parliament before it is passed into law.

The proposed Uganda NHI scheme will be composed of three sub-schemes including; Social Health Insurance (SHI), Community Based Health Insurance (CBHI), and Private (Commercial) Health Insurance (PCHI). According to the current draft it will be mandatory for the formal sector workers to contribute 4% of their net monthly salary. The informal sector workers will voluntarily contribute under the private or community-based health insurance schemes. They are expected to pay premiums while the indigents will be covered by contributions from public servants and government (NHI Bill, 2014).

It is proposed that members will be able to register up to a maximum of 4 dependants as beneficiaries under the scheme. However, this presents a challenge for members to choose which children to register under scheme given the fact that most Ugandan families have more than 4 children (UBOS, 2016). The bill does not clearly indicate how much the informal sector will be required to contribute under the CBHIs and private schemes, hence the need to understand the willingness to pay especially in the informal sector.

In Uganda, the formal sector which includes public servants and those employed informally registered companies only comprises of 20% of the labor force. The revenue raised from this sector would not be adequate to sustain the proposed NHI scheme. Hence the need to attract enrolment of the informal sector into the voluntary CBHI scheme under NHI, which makes up 80% of the labor force (UBOS, 2016). The informal sector includes peasant farmers, boda-boda cyclists, fishermen and those employed in unregistered or small-scale enterprises. Providing access to affordable health care for the informal sector remains a considerable challenge, hence the need to attract them to willingly participate in health insurance.

This study adopted a contingent valuation method using the bidding game technique to directly elicit/measure willingness to pay for a hypothetical (not yet on the market) health insurance package (Gustafsson-Wright et al., 2009). This approach has been used because it has been proven to be an effective way of assessing willingness to pay with minimal bias for goods which are not presently available on the market. However, there is paucity of information on WTP for health insurance among the informal sector in Uganda.

This study therefore, sought to assess the acceptability, perceived ability to pay, determinants and the willingness to pay for Uganda's proposed NHI scheme among informal sector workers in Iganga and Mayuge districts, and to provide information which will be used in the designing of strategies to promote participation of the informal sector workers in the NHI once implemented.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter presents a review of literature ranging from grey to published literature. It details the types of health insurance, willingness to pay, determinants for willingness to pay and approaches for assessing willingness to pay.

2.1 Types of Health Insurance

Health insurance schemes come in different types categorized by the source of financing. The various health insurance schemes that exist in Africa include:

2.1.1 National Health Insurance Systems (NHIS)

This is a system of health insurance where a National population is insured against the costs of health care. It is mainly managed by the public sector (WHO, 2010). However, it can also be administered by the private sector, or a combination of both. It is usually established by national legislation (Savedoff, 2008). NHIS are usually financed through general taxation but many vary with particular programs and country. They are usually state-funded health insurance programs but can coexist with all other forms of health insurance, including private voluntary health insurance (Lagomarsino et al., 2012).

2.1.2 Social Health Insurance (SHI)

Social health insurance (SHI) is financed via payroll taxes collected from employers and employees. Often tax is mandatory for a certain group, such as government employees. These contributions are used to finance health services, thereby giving access to its members, irrespective of income or social status. The contribution of the employee and the employer may be balanced, or one may contribute more than the other. Another hallmark of SHI is a central management agency that pools the funds, determines the package of services to clients and reimburses the providers. In Africa, governments make partial contributions to the premium and their employees are mandated to pay in order to support them to participate in the scheme. Social health insurance can be managed by a single fund or via multiple funds. Multiple funds are usually associated with different population groups. The management of fragmented pools is often fraught with challenges such as, inequities in access and inefficiencies (Bazyar et al, 2016).

2.1.3 Community-based health insurance (CBHI)

These are health insurance initiatives built upon the principles of social solidarity and designed to provide financial protection against the impoverishing effects of health expenditure for low-income households in the informal urban sector and in rural areas (Ahuja and Jütting, 2004; Jacobs et al., 2008). Community-based health insurance schemes (CBHI) involve potential clients in determining scheme benefits. CBHI covers a wide spectrum of programs that share at least three attributes: not-for-profit prepayment plans for healthcare, community control, and voluntary membership. The community in question can be defined geographically for example, a village or via some other well-defined affiliation. The large variety of CBHI schemes encompass programs that cover high-cost, low-frequency events as well as those that cover low cost, high frequency events. Some CBHI schemes are managed or coordinated by central government while others are left in the management of communities. CBHI are available in countries like the Democratic Republic of the Congo, Ghana, Rwanda and Senegal (McIntyre D, 2007, Preker A at el, 2004).

2.1.4 Private Health Insurance (PHI)

Most countries have private Health Insurance providers existing alongside other insurance schemes. In private health insurance, contributions or premiums are risk-related: individuals or groups of individuals select a package whose premiums are related to their risks only. Private health insurance can be run by for profit companies or non-profit organizations. Private health insurance (PHI) are increasingly implemented on a large scale in countries like Namibia and South Africa (Smith PC, 2007).

2.2 Willingness to Enroll and Pay for Voluntary Health Insurance Schemes

Willingness to pay (WTP) refers to the maximum amount that an individual is prepared to give up to obtain utility and satisfaction from the consumption of a particular good or service such as health insurance (Frykblom, 1997). This can be used to assess the value that beneficiaries place on health insurance as a result of monetizing the benefits associated with such good or service (Morrison and Gyldmark, 1992). This consequently determines the rate at which people participate in a given health insurance scheme.

Studies show that some countries have had low initial enrollment and even lower renewal of membership, both of which threaten the sustainability of the health insurance schemes (Kotoh, 2013). In Ghana, it is reported that the enrollment rate stagnated at about 40.3% over the years (Kotoh and Van der Geest, 2016). It is even reported to be worse off in Kenya, where a significant proportion (80%) of the population by the year 2014 remained uninsured. One of the factors attributed to the slow progress in extending coverage of insurance in Kenya was the growth of the informal sector for whom coverage is voluntary (Kazungu and Barasa, 2017). However, there is an exception for a country like Rwanda where even enrolment of the informal sector is mandatory, and this coupled with other factors such as political will, has seen the coverage to go up to over 90% coverage (MOH-Rwanda, 2010). A number of studies show a high level of willingness to pay, despite some African countries suffering with low enrollment rates.

In Eastern Caribbean, one study revealed that 69.5% of the respondents were willing to participate in the proposed National health insurance scheme, while in Ethiopia and Bangladesh 76.4% and 86.7% were willing to participate in CBHI schemes respectively. This indicated that people generally would accept the scheme (Adams et al., 2015). Regarding modes of payment of premiums, 63.4% of the respondents preferred to pay weekly, while 36.7% preferred monthly. Respondents were willing to pay an average amount of 22.8 BDT (0.286 USD) weekly per household (Ahmed et al., 2016).

The majority (71%) of the respondents in Nepal were willing to pay for the proposed NHI, with a median WTP of Rs. 500 (7 USD) per month. Additionally, a willingness and ability to pay study in Kenya reported that the informal sector individuals were only willing to pay a maximum of KES 300 (USD 3) monthly premium, rather than the current National Hospital Insurance Fund (NHIF) monthly premium of KES 500 (USD 5) (Barasa et al., 2017). Similarly, a study carried out in Iran indicated that the average WTP for social health insurance per person per month was found to be 5.5 USD (Nosratnejad et al., 2014), while in Namibia, the uninsured individuals were willing to pay 47.50 NAD (6.60 USD) per month for health insurance (Gustafsson-Wright et al., 2009). The mean WTP in the above countries are higher than the proposed 27 USD per year in Uganda.

The willingness to pay was high with over 68% of the informal sector willing to pay according to a study conducted in Southern Sudan. However respondents were willing to pay different percentages of their incomes (Basaza et al., 2017). The idea of making contributions as a proportion

is something that needs to be explored because it would make people pay according to their ability and it is more equitable than just having a flat figure for all persons.

2.3 Determinants of Willingness to Enroll and Pay for National Health Insurance

The determinants of willingness to enroll and pay for Health insurance include socioeconomic status of beneficiaries, access to health facilities and limited awareness, quality of services, benefit package, accessibility (Acharya et al., 2012, Nguyen and Knowles, 2010).

2.3.1 Individual factors for Health insurance

2.3.1.1 Socio economic factors

A number of studies conducted in Nigeria, Ethiopia and Ghana on the factors that affect willingness to participate in health insurance scheme have reported that social economic factors such as poverty (income or wealth status, livelihood practices), sex, residence, amount of contributions in terms of premiums have a bearing on ease or difficulty of enrolling into a given scheme, with high premiums deterring enrollment into schemes (Kotoh et al., 2018, Odeyemi, 2014, Mebratie et al., 2015).

Similar studies conducted in Sierra Leone and Iran showed that the WTP for the HI scheme depends on the monthly income of the respondent, region, occupations education and age group of the respondent (Jofre-Bonet and Kamara, 2018, Nosratnejad et al., 2014)

In Ethiopia, most of the demographic, socioeconomic variables and social capital were found to be significantly associated with willingness to join the community based health insurance scheme (Haile et al., 2014). A similar study conducted in Bangladesh, showed that gender of the household head was one of the important predictors of joining the health insurance scheme. The female-headed households were more frequently protected under the scheme than male-headed households. The authors could not find a plausible explanation for this observation. However, this might be due to the fact that females have greater awareness of the importance of healthcare than males, and also have better health seeking behaviors, hence more willing to pay and enroll (Sarker et al., 2017). In the same study, household size had a significant positive effect on the likelihood of health insurance policy ownership and those which had 5 to 6 members were frequently enrolled in the scheme (Sarker et al., 2017). It might be that larger households were more conscious about

the financial affordability during illness as affordability is an important barrier to health care (Balabanova et al., 2004)

Studies have also reported that the different categories of informal workers have different degrees of willingness to participate and different amounts of contributions they are willing to pay for Health insurance services (Zhao et al., 2014). Housewives have been reported to significantly more likely to enroll for health insurance than other workers (Sarker et al., 2017).

In Nepal, economic status and level of education were found to be important predictors of people's willingness to pay for health insurance. People belonging to a lower wealth quartile and those with low level of education were less willing to pay for National Health Insurance Scheme. However, people with higher education and affluent people were more willing to pay for NHIS (Khatiwada et al., 2017). One of the justifications for the association may be that people with higher education may be more confident in adjusting and trusting, a new system. This finding is supported by the WTP survey carried out in rural Vietnam (Lofgren et al., 2008). Similarly, studies conducted in Nigeria showed that richer households are more willing to pay than the poorest household, and people with higher educational status expressed higher WTP than those with lower educational status (Usman, 2013, Onwujekwe et al., 2009).

Additionally, household illness experience is another important consideration for willingness to pay and this has influenced willingness to pay for insurance in different ways in different countries. A similar study conducted in Burkina Faso showed that households that had recorded sick members were less willing to pay than their counterparts (Asgary et al., 2004). Contrary to this, a study conducted in Nigeria, Cameroon and India reported that households with more sick members were more willing to pay (Mathiyazaghan, 1998, Onwujekwe et al., 2009, Donfouet et al., 2011). Individuals with better health status are willing to pay less amount for health insurance compared with individuals with poorer health status (Donfouet et al., 2011).

2.3.1.2 Trust and faith in systems

Lack of trust in the system is one of the important reasons for not willing to participate in the scheme, according to a study from Nigeria, was lack of trust in the scheme fund administrators and government policies which were considered very unstable and unsustainable (Oriakhi and Onemolease, 2012). Other studies conducted in Nigeria, Burkina Faso and Cambodia revealed that

household heads who had greater trust in the scheme were willing to pay higher amounts than their counterparts (Ataguba et al., 2008, Gustafsson-Wright et al., 2009)

2.3.1.3 Prior Health insurance and saving group membership

The availability of other private health insurance scheme alternatives affects the willingness of people to participate in the proposed National Health insurance scheme. In Saudi Arabia, it was reported that households having private insurance were 41% less likely to pay for the National health insurance schemes (Al-Hanawi et al., 2018). This could be because those with private health insurance can access private healthcare services without needing to access public healthcare services, hence no need of participating in the National scheme.

A study conducted in Taiwan reported that having health private insurance was positively associated with the willingness to participate in the proposed NHI plan. This may be due to the fact that people with health insurance were already exposed to the insurance system, thus understanding its importance, hence willing to participate (Adams et al., 2015)

2.3.1.4 Use of Alternative medicine

Studies have shown that the presence and use of alternative medicine and other forms of healthcare such as herbalists negatively affect participation in a health insurance scheme since insurance requires regular use of modern medicine. Studies conducted in Cameroon, Burkina Faso, Nigeria and India have reported that those who use modern medicine were found to be willing to pay for Health insurance more than those who use traditional medicine(Mathiyazaghan, 1998, Donfouet et al., 2013, Oriakhi and Onemolease, 2012).

2.3.1.5 Awareness about Health insurance

Another important demand-side factor reported by many studies is the awareness of the functioning of a health insurance scheme. A systematic review and meta-analysis of factors influencing WTP for voluntary health insurance scheme in LMICs revealed that knowledge and understanding of the functioning of the scheme positively influences the willingness to pay and participate in the scheme It is further noted that in communities where literacy is low and information on insurance is scarce, the enrolment levels have also been reported to be low (Adebayo et al., 2015, Dror et al., 2016).

2.3.1.6 Quality of health services

In Nigeria, the dissatisfaction of patients which manifested as provider rudeness, preference given to cash-paying uninsured patients, long waiting queues and differential treatment hindered both renewals of membership and enrollment (Onwujekwe et al., 2009). Similarly, in Burkina Faso, a significant proportion of members left the scheme due to providers' rude behaviors, which deterred others from willing to participate in the scheme. Additionally, dirty premises, unavailability of diagnostics, stock-outs contributed to members drop out and less willingness of a significant proportion of community to join the scheme (Dong et al., 2009).

Studies conducted in Burkina Faso and Nigeria revealed that Individuals that perceived the quality of care as good were more willing to pay for health insurance than those who perceived the quality of services to be poor (Ataguba et al., 2008, Dong et al., 2009). Additionally, households that were in close proximity to the health facilities were more willing to enrol into the scheme and pay a higher fee (Ataguba et al., 2008). From this literature review, fewer studies have explored the health system factors that affect willingness to pay especially among the informal sector. This study will contribute to a pool of knowledge and the understanding of willingness to pay for voluntary health insurance in Iganga district, Uganda.

2.4 Approaches to Assessing Willingness to Pay

2.4.1 Introduction

There are majorly two methods for measuring the economic value of nonmarket goods and willingness to pay; 1) revealed preferences and 2) stated preferences methods (Alpizar et al., 2001, Georgiou and Turner, 2012). The revealed preferences' approach use data from actual and current market equilibrium. They also use information from related markets to impute a value for non-market goods. The stated preferences' approaches depend on hypothetical scenarios (Alpizar et al., 2001). The stated preference methods can be used to value any good or service the levels of quality that currently do not exist. And they often provide the only viable alternative for measuring non-use values. Furthermore, they may be used to elicit values in cases in which the quality change involves a large number of attributes (Adamowicz et al.1994; Bateman et al.2002; Mendelsohn and Olmstead 2009). Thus, for a nonexistent goods on the market such as the proposed NHI scheme, the stated preference methods become a more viable alternative for assessing willingness to pay (Alpizar et al, 2001).

The stated preference methods include direct and indirect approaches (Breidert et al., 2006). The indirect methods used to estimate willingness-to-pay include; Discrete choice experiments, contingent rating, contingent ranking and pair-wise testing (Rossmann, 2000, Cameron et al., 2002, Merino-Castello, 2003).

2.4.2 Discrete Choice experiments (DC)

This involves putting together a set of attributes, making hypothetical profiles offering different attribute level by attaching monetary values and then asking the respondents to choose (Breidert et al. 2006).

One of the main merits of DCE as compared to CVM is the ability to value the individual attributes characterizing a good (Hanley et al., 2001). This allows a better understanding of choices for the different attributes of the services and valuing the individual characteristics of a policy. Thus DC may not be well suited for valuing the overall policy package such as Health insurance benefit package (Hanley et al, 1998).

The discrete choice experiments are considered easier for respondents as they do not need to assign direct monetary values compared to contingent valuation where respondents directly assign their willingness-to-pay in monetary values to their stated choices (Atkinson et al., 2008). However, The DC is relatively expensive and time consuming compared to the Contingent valuations (Hanley et al, 1998).

2.4.3 The Contingent Valuation Method (CVM)

This is a method of estimating the value that a person attaches to a good, say health insurance. The approach asks people to directly report their willingness to pay (WTP) to obtain a specified good, or willingness to accept (WTA) to give up a good (FAO, 2018). The CVM creates a hypothetical marketplace in which no actual transactions are made, hence this approach has been successfully used for commodities that are not exchanged in regular markets.

This approach makes the assumption that people have had no previous experience of buying the health service which is going to be put on the market and instead asks people their willingness to pay on the basis of their expectations and benefits attached to the services (Russell et al., 1995b). This method dodges the absence of markets for public goods by presenting consumers with

hypothetical markets in which they have the (hypothetical) opportunity to buy the good in question. Because the elicited WTP values are contingent upon the particular hypothetical market described to the respondent, this approach came to be called the contingent valuation method (Mitchell and Carson, 2013).

Contingent valuation has been particularly popular for valuing environmental interventions (Hanley et al. 2003), but this method has also been increasingly used for valuing health services both in developed and in developing countries (Whittington 1998; Smith 2003). Particularly it has been used to measure the WTP for health insurance in developing countries including; Burkina Faso, Cameron, India, Nigeria, Ghana among others (Dong et al., 2005, Asenso-Okyere et al., 1997, Khatiwada et al., 2017).

A range of Contingent Valuation techniques have been applied to elicit willingness to pay and these include open-ended questions, close-ended questions/dichotomous choice both single and double choice, and the bidding game techniques (Russell et al., 1995a, Klose, 1999), but there is no consensus regarding a gold standard for WTP elicitation in the literature (Klose, 1999). For this study, a bidding game technique is chosen because of the ease to implement it and its minimal biases. In addition, many studies have found the bidding game to be very reliable (Whittington et al., 1992, Dong et al., 2003).

The bidding game involves presenting a case scenario of a hypothetical insurance plan to a respondent. The respondent is then asked if he/she is willing to pay the starting bid. If the respondent agrees, the interviewer raises the bid by a given percentage and again asks if the respondent is willing to pay for the new bid. The interviewer continues presenting the different bids until the respondent expresses unwillingness to pay. On the other hand, if the respondent expresses unwillingness to pay for the starting bid, the interviewer lowers the bid by a given percentage and repeats the query, until a bid is reached where the respondent is willing to pay (FAO, 2018).

While the bidding game is simple to conduct since it requires only “yes”/”no” responses to each bid and thus has more market realism than single open-ended questions asking respondents for their maximum WTPs, it has some inherent disadvantages. The initial price offered/starting bid may influence the WTP estimate to be a higher-biased estimate. Furthermore, is the threat of

starting-point bias, where the respondent's final WTP value is not independent of the first bid prompted by the interviewer (Dong et al., 2005).

CHAPTER THREE

PROBLEM STATEMENT, JUSTIFICATION AND CONCEPTUAL FRAMEWORK

3.0 Introduction

This chapter presents the statement of the problem, justification and the conceptual framework

3.1 Problem Statement

Uganda invested only 7.4% of its FY 2018/2019 budget to health care, which is not even half of the 15% Abuja declaration. High (40%) rates of out of pocket expenditure remain a problem hindering millions of Ugandans from accessing quality health care (MOH, 2017). It is estimated that 59% of the people in the informal sector in Eastern Uganda can't afford to access quality health care due to high poverty levels and out of OOP payment for health care (Twaweza, 2019).

In a bid to solve this, Uganda is in the process of developing a NHI scheme. However, given the high poverty levels among Ugandans, a policy question of how much money are people willing and able to pay remains un answered. Eastern Uganda is the most poverty hit region in Uganda, with 35.7% of the people poor (UBOS, 2016).

A number of sector reforms have been implemented to try and enhance access to quality health care, including cost sharing, abolishment of user fees, Results based financing and the proposed NHI which will mainly target public servants. However, the NHI bill does not explicitly address how the informal sector will contribute to the scheme and yet these make up 80% of working population. This makes sustainability of NHI scheme with only formal workers who make up only 20% of the labor force questionable. There is less information on the acceptability, willingness and ability to pay for health insurance especially within the informal sector who are expected to willingly make contributions through the community-based health insurance schemes.

Therefore, this study aimed at documenting the level of willingness, acceptability, ability to pay and factors that influence willingness to pay for the proposed NHI scheme among the informal sector workers. This will guide setting of premiums and inform strategies designed to increase participation in the proposed NHI scheme among informal sector workers.

3.2 Justification

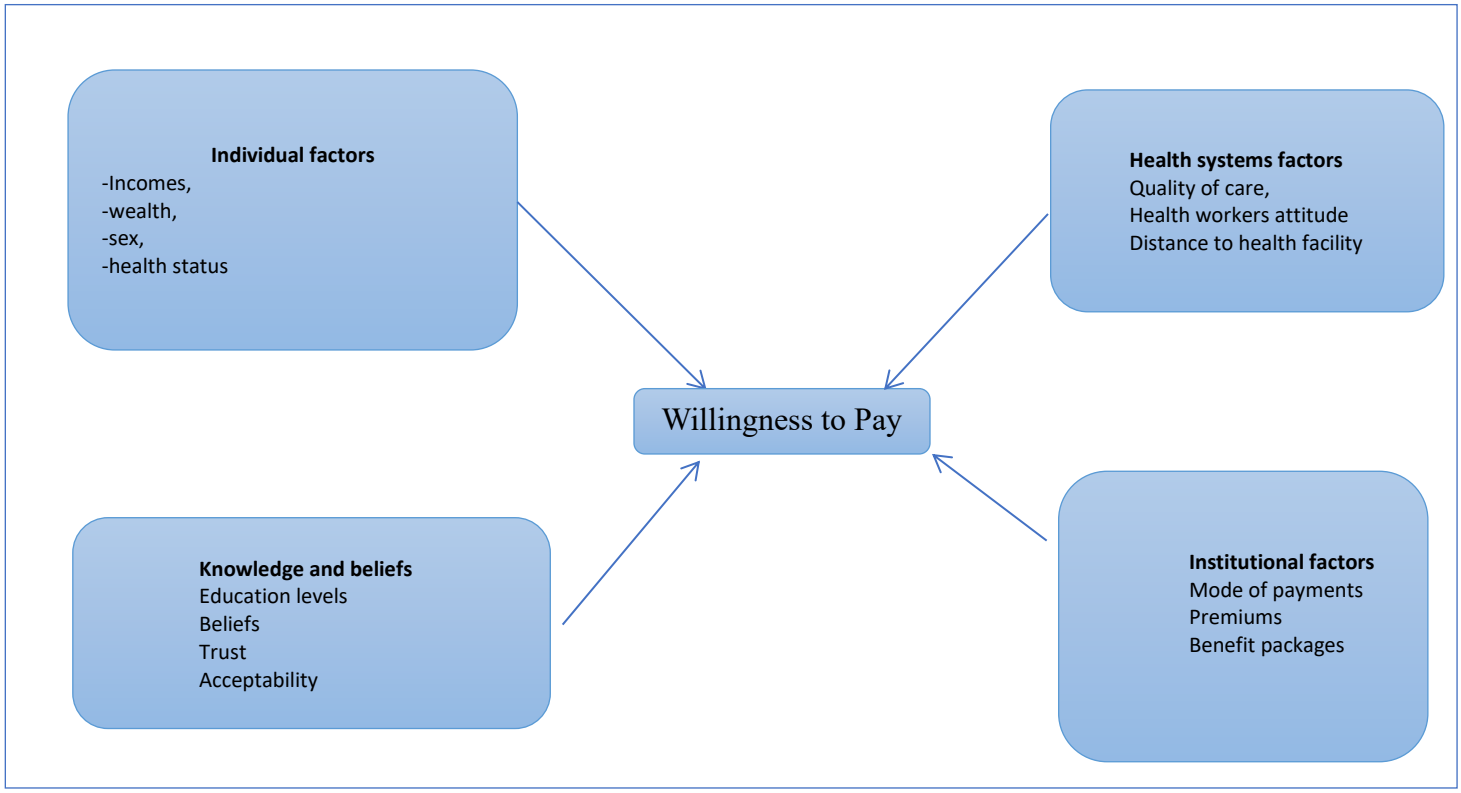
Understanding the level of and determinants for willingness to enroll and pay for the proposed NHI plays an important role in designing strategies for improving enrollment rates into the scheme. However, as the country plans to roll out health insurance scheme, there is limited documented information on the determinants and level of willingness and ability to pay for the proposed NHI scheme among the informal sector workers in Uganda.

This study therefore generated information on the determinants and level of willingness and ability to pay for the NHI, which will be used by the MOH in designing strategies for ensuring maximum participation especially among the informal sector workers. This will also inform the implementation of the NHI scheme. The findings will also be used by policy makers to inform mending the 2014 NHI bill and setting of premium rates which majority of community are willing and able to pay and also guide in redefining a suitable benefit package.

3.3 Conceptual Framework

Figure 1: Conceptual Framework for Determinants of Willingness Pay for Health Insurance Scheme

(source: Author-Review of literature)



A number of models were used in synthesizing the determinants for willingness to pay. These include: 1) the economic model which highlights two factors-income and the good itself(Carson et al., 2001) . Where income affects willingness to pay. 2) The theory of planned behavior which looks at attitudes influencing the behavior of willingness to pay for services (Ajzen, 1991) and 3) the public good theory which talks of trust and belief people have about willingness to pay for the services (Cornes and Sandler, 1996).

Narrative of the conceptual framework

Willingness to pay for the Proposed National Health insurance plan is determined by an interplay of a number of factors. These factors are grouped into the individual factors, knowledge factors, health systems and institutional factors

Health system factors: These are system factors including health care systems factors (access to services, quality of care, staff attitudes, benefit package), which directly influence beneficiaries to participate and pay for health insurance scheme.

Scheme institutional factors: These include factors relating to the functioning of the scheme itself (unit of enrollment, time of payment, exemptions, provider payment). These also directly influence the level of willingness to pay for Health insurance.

Individual factors: These are beneficiary factors that include individual factors (income, household size, wealth, livelihood, and gender) and knowledge related factors (awareness, education, beliefs, trust and psychosocial factors). These are influenced by supply side factors and also affect whether people are willing to pay for the proposed National Health insurance scheme.

3.4 Research Questions

1. What is the acceptability of the proposed National Health insurance scheme among people of the informal sector in Iganga and Mayuge districts?
2. What is the level of willingness to pay for the proposed National Health Insurance scheme among people of the informal sector in Iganga and Mayuge districts?
3. What is the perceived ability to pay for the proposed National Health Insurance scheme among people of the informal sector in Iganga and Mayuge districts?
4. What factors influence willingness to pay for the proposed National Health Insurance scheme among the informal sector in Iganga and Mayuge districts?

CHAPTER FOUR

STUDY OBJECTIVES

4.0 Introduction

This chapter outlines the Broad and Specific Objectives

4.1 Broad Objective

To assess the willingness to pay for Uganda's proposed National Health Insurance Scheme and the associated determinants among the informal sector workers in Iganga and Mayuge districts, and to generate evidence to guide designing of strategies for increasing enrollment rate for the NHI in Uganda

4.2 Specific Objectives

1. To assess the willingness to voluntarily pay for the proposed National health insurance scheme among informal sector workers in Iganga and Mayuge districts
2. To assess the perceived ability to pay for the proposed National Health insurance among informal sector workers in Iganga and Mayuge district
3. To explore the acceptability of the Proposed National Health Insurance among informal sector workers in Iganga and Mayuge district
4. To establish factors that influence willingness to pay for the proposed National Health insurance among informal sector workers in Iganga and Mayuge districts

CHAPTER FIVE

METHODS

5.0 Introduction

This chapter highlights how the study was conducted. It details the study setting, design, sampling, study population, sample size, data collection tools, data management and analysis.

5.1 Study Setting

The study was conducted in Iganga and Mayuge districts of Eastern Uganda. Iganga and Mayuge districts were selected purposively because they are the most poverty hit districts in the country and 80% of the populations stay in rural areas. They also have 80-85% of the population belonging to the informal sector (UBOS, 2016). Iganga district represents the urban informal sector while Mayuge district represents a rural informal sector.

Iganga District is bordered by Kaliro District to the North, Bugweri District to the East, Mayuge District to the South, Jinja District to the southwest, and Luuka District to the West. With a total population of 504,197 people, 9.9% of the households are 5km or more to the nearest health facility, and 19.9% to a public health facility (UBOS, 2016). It is composed of 3 counties, 8 sub counties, 66 parishes and 395 villages. The major economic activity is farming. Mayuge district is located in South Eastern Uganda with a population of 473,2394 and a growth rate of 3.5% (UBOS, 2016) and it has thirteen sub counties. The major economic activities are farming and fishing. Mayuge district is bordered by Lake Victoria to the south as well as Jinja and Bugiri Districts. It has a total of 33 landing sites where fishing activities take place

5.2 Study Population

The study targeted the four major categories of the informal sector; 1) farmers, 2) fishermen 3) motorcyclists/bicycle riders and 4) business community (traders and market vendors) in the study area. It also included health facility managers to explore the health systems factors for willingness to pay for health insurance. The informal sector was chosen because they make up the largest (80%) portion of the population (UBOS, 2016), without which sustainability of the scheme will be questionable. We conducted household visits to access the farmers, markets and shops to get

vendors and traders, and boda-boda stages to access the motorcyclists and bicycle riders. The fishing communities were accessed at the landing sites

5.3 Study Design

This was a cross sectional study design which involved mixed methods of data collection. A contingent valuation approach was used to elicit willingness to pay.

5.4 Sample Size

5.4.1 Quantitative

The sample size was calculated using Kish Leslie formula (Kish, 1965).

$N = \frac{Z^2 \times P \times Q \times DE}{\delta^2} = \frac{(1.96^2 \times 0.5 \times 0.5) \times 2}{0.05^2} = 768.32$

z =1.96= z value for 95% confidence limits

P=0 .50 = expected level of willingness to participate in the scheme,

Q= 1-p = 1-0.50 = 0.50

δ = 0.05 is the level of precision.

Considering a non-response rate of 10%, the total sample size was (768/0.9) =853

Therefore, a total sample size of **853** informal sector workers was considered for this study.

Table 1: Sample size distribution per district proportionate to size

	Iganga	**Mayuge**	**Total**
Population N (%)	504,197 (51.6)	473,239 (48.4)	977436 (100.0)
Sample population	0.516*853=**440**	0.484*853=**413**	853

5.4.1 Qualitative

Seven focus group discussions with women (four FGDs) and men (three FGDs) in the informal sector were conducted. However, the number of FGDs depended on the level of information saturation. Six key informants with health facility managers in the selected study area were considered, however, this number also depended on the level of information saturation. This was determined by doing analysis while still in the field.

Table 2: Distribution of FGDs conducted

Category	**Female**	**Male**	**Total**
Farmers	1	1	2
Fishermen	1	1	2
Traders	3	1	2
Boda-boda cyclists	0	1	1
Total	***3***	***4***	***7***

5.5 Sampling Procedure

Quantitative

Stratified random sampling was used in this study, where the informal sector workers were divided into three major categories (strata); -Farmers, motorcyclist/bicycle riders, traders/market vendors, for Iganga district and four categories of fishermen, farmers, boda boda/bicycle riders and market vendors for Mayuge district. A random sample from each stratum was taken in a number proportional to the stratum's size when compared to the population.

In Iganga district, two sub counties were selected randomly and five villages from each subcounty were also selected randomly selected. A total of 286 households from the 10 villages were selected proportionate to size and the household heads were systematically sampled for interviews. Seven main *bodaboda* stages were randomly selected and 10 cyclists available at the time of the study were randomly selected to participate in the interviews. A total of 84 traders were selected systematically from the two major markets for interviews.

In Mayuge district, A total of 10/33 landing sites were randomly selected and 248 fisher monks were selected form the 10 landing sites proportionate to size., 62 traders were randomly selected

from three main markets systematically and 62 bodaboda cyclists were randomly selected from 6 major stages in Mayuge town.

Table 3: Sampling procedure per category of informal sector

Iganga district (Iganga district planning office, 2018)				
Category	**Farmers/peasants**	**Motorcyclists/bicyclist**	**Traders/vendors**	**Fishermen/women**
Proportion in the district	0.65	0.16	0.19	
Sample size	(0.65*440) =286	(0.16*440) =70	(0.19*440) =84	-
Selection procedure	2 sub counties (SC) and 5 villages from each SC were randomly selected. households proportionate to size selected.	7 *Boda boda* stages in the town were randomly selected, cyclists on stage randomly selected to be interviewed	Traders were systematically selected for the interviews two main markets	-
Mayuge district				
Category	**Farmers/peasants**	**Motorcyclists/bicyclist**	**Traders/vendors**	**Fishermen/women**
Proportion in the district	0.1	0.15	0.15	0.6
Sample size	(0.1*413) =41	(0.15*413) =62	(0.15*413) =62	(0.6*413) =248
Selection procedure	One subcounty and two villages were randomly selected, the number of households were determined proportionate to size.	6 *Boda boda* stages in town were randomly selected, later cyclists on stage at that time were randomly selected to be interviewed	Traders were systematically selected from 3 main markets	10/33 landing sites were randomly selected. Fishermen at each site were randomly selected, proportionate to size
Total samples	**327**	**132**	**146**	**248**

Qualitative

Men and women from each of the categories were purposively selected based on those who had much information and were able to talk as identified during the quantitative interviews, for the focus group discussions. Health facility managers of the health facilities that serve the selected areas were purposively selected as key informant interviews.

5.6 Study Variables

The dependent and independent variables are summarized in the table below

Table 4: Study Variables

Variable Name	Variable Type and coding	Coding and Variable Measurement
Level of willingness to pay	Dependent (Categorical)	1 yes, 2 No Proportion of respondents willing to contribute money to the scheme
Willingness to pay	Dependent (Continuous)	Median and mean amount of money
Acceptability	Dependent (Categorical	1 yes, 2 No Proportion of respondents who would accept the proposed scheme and see it as see it as beneficial and would like to enroll
Perceived ability to pay	Independent	1 yes, No Proportion of respondents who feel are able to make periodic contributions to the scheme
Socio-economic status	Independent (categorical)	Wealth quintiles 1 poorest, 2 poor, 3 Moderate, 4 wealthy, 5 Wealthiest
Sex	Categorical	1 male 2 female
Residence	Categorical	1 Rural 2 Urban
Marital status	Categorical	1 single, 2 married, 3 Separated, 4 Widowed
Education level	Categorical	1 None, 2 primary, 3 Secondary, 4 Tertiary
Religion	Categorical	1 catholic 2 protestant 3 Moslem 4 SDA
Occupation	Categorical	1 farmer, 2 Trader, 3 Motorcyclist 4 fishermen
Monthly income	Continuous	Mean and median
Household size	Continuous	Mean
Saving group membership	Categorical	1 yes 2 No
Rate health status	Categorical	1 very poor 2 poor 3 Good 4 Very good
Distance to health facility	Continuous	Average (KM)
Ever heard of HI	Categorical	1 yes, 2 No

5.6.1 Dependent Variable

Acceptability of the health insurance scheme, this was measured by first presenting a case scenario to the respondents of how the NHI will operate followed by asking a yes/no question whether someone would accept the proposed NHI plan. This was expressed as proportion (percentage). This was followed up by questions on why and why not accept the proposed scheme. This was

followed by the question of whether someone was willing to contribute money to the health insurance scheme, to determine the level of WTP.

Sample Case scenario;

"Hospitalization expenses incurred for medical or surgical treatment for illness/disease and injury, covering both consultation fees and drugs and supplies at a given fee per year per person, including 4 of your biological dependents."

And

"Hospitalization expenses incurred for medical or surgical treatment for illness/disease and injury, covering both consultation fees and drugs and supplies at a given fee per year per person, including 4 of your biological dependents., with a copayment each time you visit the health facility"

Elicitation of willingness to pay

Willingness to pay was assessed using a contingent valuation method using the "bidding game" technique. The bidding game was used to determine the maximum premium that a respondent is willing to pay for the proposed NHI plan. The interviewer asked the respondent if he/she was willing to pay the starting bid. If the respondent agreed, the interviewer would raise the bid by 10% of the first bid and again asked if the respondent was willing to pay the new bid. The interviewer continued presenting the different bids until the respondent expressed unwillingness to pay. On the other hand, if the respondent expressess unwillingness to pay the starting bid, the interviewer lowered the bid by 10% and repeated the query. This was continued until a bid was reached where the respondent was willing to pay. The starting bid was 20,000 UGX, since this was the average premium for beneficiaries in the existing Community based Health insurance schemes in Luweero, Western Uganda and Jinja.

The proportion of those willing to pay and average, median amount of money people were willing to pay were computed.

5.6.2 Independent Variables

Perceived ability to pay which was measured by asking respondents whether they were able to pay premiums for health insurance per year and how much they could afford without foregoing other basic needs. Determinants for willingness to pay including quality of care, incomes, household size, gender, beliefs, trust, awareness and perceptions

5.7 Data Collection Tools and Procedure

Quantitative

A semi structured questionnaire was used to collect quantitative data such socio demographics, WTP, acceptability, perceived ability to pay etc, from the informal sector workers. This tool answered objectives one and two, and part of objective three and four. The data collection tools were translated to the local language Lusoga and then back translated to English to check whether the translated questions still held information validity. Quantitative data was collected using mobile phones. The Principal Investigator recruited and trained research assistants so that they were familiar with the statement of the problem, objectives of the study, sampling procedure, data collection tools and plan for data collection. They were oriented about the bidding game technique for assessing WTP. They were also taught the meaning of health insurance, and how it intends to be operationalized in the country. They were also trained on the basic interview techniques such as asking questions in a neutral manner, not showing by word or actions what answer were being expected of them and how to record answers especially from the open-ended questions without interpreting them.

The data collection tools were pre-tested in the neighboring district -Bugweri district. This was done to test for the validity and the ease of application of the tools. Filled electronic forms were checked at the point of data collection for completeness and those found incomplete were completed before the respondent was discharged. The data was cleaned and edited by the research assistants before submitting the complete forms to the server.

Qualitative

key informant interview guides were used to collect qualitative data such as quality of services, perceptions about health insurance, Health facility readiness for health insurance, ability to pay etc, from health facility managers to answer part of objectives 1 2 and 4. FGD guides were also

used to collect data from informal sector workers to understand the determinants of willingness to pay. The FGDs and KIs were audio taped. The FGD were composed of 6-8 participants and all these were given a transport refund of UGX. 5000 each to the venue. The discussion had moderator and a note taker and the discussions lasted for an average of one hour. These were conducted in Lusoga. The discussions were around whether people are willing to pay, acceptability of health insurance scheme, affordability, factors hindering payment of premiums for health insurance.

5.8 Data management and analysis

Quantitative data was

The quantitative data was downloaded from server and imported into STATA 14 for cleaning and analysis. Descriptive statistics to include

mean, median, standard deviations, frequencies and percentages were obtained. Information was presented in frequency distribution tables and graphs. Principal component analysis was done to generate wealth quintiles (UDHS, 2006). The wealth quintiles were generated based on 9 household items which included; car, motorcycle, bicycle, radio, Television, mobile phone, piece of land, owns house and has animals.

Inferential statistics were obtained using logistic regression. This was done in two stages; 1) Bivariate analysis was done to determine the potential variables associated with willingness to pay for health insurance. Crude Odds ratios at 95% confidence interval were obtained to measure the potential association. 2) multivariate analysis was done to determine the actual factors associated with WTP. All variables that were statistically significant at bi variable analysis and the important factors known in literature to be statistically significant such as socio-economic status, occupation and potential confounders like residence were included in the model. Variables were tested for collinearity before being included in the model. The model was built step wise while testing the model using lfit until the best model was obtained. Variables that remained statistically significant at 95% confidence were considered the factors associated with WTP for health insurance. Adjusted Odds ratios were obtained as the measures of association.

Qualitative data

This was analyzed manually using thematic inductive approach. Data from FGD and key informants was transcribed verbatim and translated from Lusoga to English. Transcripts were read

by more than 2 independent analysts who identified sub themes and then organized into themes and later developed codes. The themes that emerged from the interviews included; quality of care, trust, ability to pay among others. The data was coded and summarized in matrices. The information was triangulated with the quantitative data findings to gain deeper understanding.

5.9 Ethical Considerations

The study was approved by the Makerere University, School of Public Health Higher Degrees Research and Ethics committee. At the district level, permission to conduct the study was obtained from the local leaders and the District Health Office before conducting the study. Permission was also sought from subcounty chiefs and Local Council I Chairpersons. An informed consent of each individual participant was obtained at the start of the study. Respondents were read an informed consent which clearly stated the following 1) the purpose of the study, 2) what participation in the study would involve, 3) How confidentiality and anonymity was maintained, 4) The right to refuse to participate in the study or to withdraw from the study without any penalty, 5) the benefits of participating in the study. Confidentiality and anonymity was maintained by the use of code numbers on the questionnaire other than names.

5.10 Plan for Dissemination of Findings

The research report will be submitted to Makerere university in partial fulfilment of the requirement for the award of a masters of public health. Research findings will also be disseminated to MOH. A manuscript and two policy briefs will be written and submitted to a peer reviewed journal

CHAPTER SIX

RESULTS

6.0 Introduction

The results are presented in five sections, Section 6.1 presents the Background characteristics of the respondents, Section 6.2 highlights the acceptability of the NHI scheme, Section 6.3 indicates the willingness to pay for the proposed NHI scheme, Section 6.4 shows the perceived ability of the informal sector to pay for health insurance and Section 6.5 explores the determinants of willingness to pay for health insurance among the informal sector.

6.1 Background Characteristics of the Respondents

The mean age of the respondents was 37.0 years (SD $\pm$ 11.3). The majority 78.2% of the respondents were males, 91.8% of the household heads were males, and 72.4% lived in rural areas. Most 81.4% of the respondents were married, more than half 52.2% of the respondents had primary education level, 35.6% were Muslims and 38.3%were farmers. The average household size was 5 and the average number of dependents was 6 (Table 1).

Socio economic status

The median monthly income was UGX 150000 (USD 40.5) and mean monthly income was UGX 208500 (USD 56.4). A total of 362/853 (42.5%) earned UGX. 100,000 and below. The majority 85.0% of the respondents owned mobile phones,72.1% had radios, 60.5% owned a piece of land while 64.1% owned houses. Principal component analysis was done to generate a wealth index from all the nine household items and 5 wealth quintiles were calculated. About 18.5% were in the wealthiest quintile, while 41.0% of the households were in the second and poorest wealth quintiles (Table 1).

Table 5: Background Characteristics of the Respondents

Variable	Frequency (N=853)	Percentage (%)
Sex of respondent		
Male	667	78.2
Female	186	21.8
Sex of the household head		
Male	783	91.8
Female	70	8.2
Residence		
Rural	618	72.4
Urban	235	27.6
Marital status		
Married	694	81.4
Single	85	10.0
Separated	48	5.6
Widowed	26	3.0
Age category		
18-25	124	14.5
26-35	303	35.5
36-45	239	28.0
46-55	126	14.8
56 above	61	7.2
Education level		
None	51	6.0
Primary	445	52.2
Secondary	280	32.8
Tertiary	77	9.0
Religion		
Moslem	304	35.6
Protestant	276	32.4
Catholic	194	22.7
Born again	53	6.2
SDA	26	3.1
Occupation		
Farmer	327	38.3
Fishermen	248	29.1
Business	146	17.1
Bodaboda	132	15.5
Wealth quintiles		
Poorest (<-1.39)	172	20.2
Poor (-1.40 - -0.50)	177	20.8
Moderate (-0.51 -0.29)	163	19.1
Wealthy (0.30 -1.23)	183	21.5
Wealthiest(1.24-4.14)	158	18.5

Individual factors for willingness to pay for Health insurance

Less than half 45.3% of the respondents were in saving groups. The majority 88.3% saved for emergencies, 56.5% saved for school fees while only 41.2% were saving for health. Most67.5% of the households never had members with any chronic illness. More than half 58.6% of the respondents rated their health status to be good while 34.4% rated their health status to be poor. About half 49.1% of the respondents reported using traditional medicine. Less than half 33.5% of the respondents were satisfied with the quality of healthcare services and 56.2% of the respondents perceived the quality of health care to be poor. and the majority 80.1% rated their ability to meet health care costs as difficult (Table 2).

The perception of poor quality of services also emerged from qualitative data where most of the participants in 6/7 of the FGDs also noted the health services in their community were poor because of lack of drugs and supplies, negative attitude of the health workers towards patients and long distance to health facility. This was emphasized below by participants who said;

> *"Health care services are poor because you can reach the hospital and plead with the health workers to work on you. When they come, they will not be having the necessary equipment to test, they just touch the patient. So that is a challenge. May be the training is insufficient, I don't know"* **(FGD-Male farmer- Iganga district)**
>
> *"I would not say that the services are all the best because it is common at the government health facilities, you go the hospital and the health workers don't work on you they just keep you waiting and still they don't work on you, yet you have travelled a long distance. Let me hope when insurance comes this will not happen"* **(FGD -Female -Fisherwomen-Mayuge district).**
>
> The district leaders tended to agree with the community's observations but also highlighted the root causes for poor quality services as shown below.
>
> *"The quality of services now it's not good in several ways; one, they delay to supply drugs and when they supply, they only bring supplies for malaria and ignore other illnesses. Services like laboratory services may not be readily available because some machines like the CBC machines breakdown"* (**KI-HC III-Iganga district**)

Table 6: Individual factors for Health Insurance

Variable	Frequency N=853	Percentage (%)
In saving group/SACCO		
No	467	54.7
Yes	386	45.3
Reason for saving		
Emergency	341	88.3
School fees	218	56.5
Health	159	41.2
For clothes	102	26.4
Others	46	11.9
Family member with chronic illness		
No	576	67.5
Yes	277	32.5
Rating of own health status		
Very good	39	4.5
Good	500	58.6
Poor	293	34.4
Very poor	21	2.5
Use of alternative medicine		
Yes	404	49.1
No	419	50.9
Awareness about Health insurance		
Ever heard about Health insurance		
Yes	92	10.8
No	761	89.2
Source of information		
Radio	70	76.1
Friends	49	53.3
Health worker	17	18.5
Television	16	17.4
Newspaper	8	8.7
Others (school, relative, SACCO, Politicians	6	6.5
Meaning of health insurance		
Organization that helps people access healthcare	35	38.0
Prepayment so that you do not pay when you are sick	14	15.2
Free treatment	15	16.3
Do not know	10	10.9
Saving for the future	8	8.7
Others	10	10.9

Awareness about Health insurance

Only10.2% of the respondents had ever heard about health insurance. The main 76.1% source of information was radio followed by friends 53.3%. Of those who had heard about HI, 38.0% said that HI is an organization that helps people access healthcare, 16.3% said health insurance means

free treatment, and 15.2% said that health insurance is making periodic payments so that when one sick doesn't have to pay. Respondents who gave a correct meaning of health insurance as prepayment mechanisms without paying when one is sick were considered knowledgeable about Health insurance. Only 1.6% were considered knowledgeable about Health insurance (Table 3).

This was in agreement with qualitative data where majority of the participants in all the 7 FGDs had never had about Health insurance.

6.2 Acceptability of the Health Insurance Scheme

Only 24/853 (2.8%) of the respondents were enrolled in some form of health insurance scheme. For those who had enrolled into some health insurance scheme, 22/24 believed the scheme was beneficial, 19/24 believed health insurance saves money, and 15/24 believed they could easily access health care. The majority 743/853(87.1%) of the respondents believed that the proposed National scheme was beneficial, and 727/853 (85.2%) would accept to participate in the proposed scheme because they felt it would enable them access care when they do not have money.

Qualitatively, almost all of the participants in the 7 FGDs would accept the proposed scheme and welcomed the idea of introducing a National Health insurance scheme in Uganda, as indicated in the quotes below;

> *"I will accept it because someone can fall sick and it requires something like a million shillings which you may not have. So, if this will be a joint thing where we will support each other, then I think it will be very helpful"* **- (FGD-Female Farmers Mayuge district)**

> *"It (Health insurance) will be helpful. Because if the health worker is not working on me I will have a basis for asking for asking her to, because I also contribute towards her salary. Hence we shall hold them accountable"* **(FGD Female-Fisherwomen-Mayuge district)**

However, some participants were not willing to accept the scheme because they felt the government was running away from its responsibility of providing services, others lost trust in government programs, and others believed the money was going to be stolen, as mentioned below;

> *"Literally it is the government itself meant to provide medical services to us the minority, so it is not fair that it is asking us to provide some money to join insurance,*

in that sense I think there the government is not being supportive at all. I will not support Health insurance" **(FGD Male Fishermen Mayuge district)**

"That thing (Health insurance) maybe good, but the challenge is that Ugandans are no longer faithful and trustworthy. Some time back they introduced the voucher system of pregnant women and we were told that they can receive healthcare from anywhere at any time freely, given they have that voucher. But whenever we would reach the health facility and the health workers ask for money. So we can join that health insurance we pay our money for it, but after they may continue asking for money when we go to receive treatment" **(FGD-Male Farmer-Iganga district)**

"The problem comes in where people are required to pay this money in advance, people no longer trust the government with money. The money is intended for health but it can be mishandled and used for other things which are even useless. Here in this community we have health facilities where you can just ask a sick family member to go for treatment and you can pay later. So this thing is good but people don't trust the government"- (FGD-Bodaboda -Iganga district)

Even fewer key informants (2/6), supported the proposed National health insurance because they felt the government cannot improve the quality of care, hence Health insurance will not be successful as noted below;

"I don't second health insurance for the informal sector, because for the time I have been in Uganda, I don't think the government can do any miracle to provide all the services to people. So therefore, I don't think this will work at all in Uganda. Therefore, with lack of services, I don't think someone who has paid his money for insurance will be comfortable with a facility like Nakalama HC III". **(KI-Nakalama HC III-Iganga district).**

When asked whether health facilities are prepared for health insurance, 5/6 of the key informants said the health facilities are not prepared for health insurance due to the current quality of care in these facilities as elaborated below by one of the facility in charge

"The health facilities are not prepared for health insurance. Actually, there is need for support of the health facilities like adding more health workers, supplies, expand services at HC IIs. There is need to install biometric information systems to be able to manage health insurance data" **(KI-Kasutaime HC II-Mayuge district)**

6.3 Willingness to Pay for the Proposed NHI

The majority 81.5% of the respondents were willing to pay for NHI. Of those willing to pay, the median willingness to pay was UGX 25,000 (USD 6.8) while the mean WTP was UGX 28,950 (USD 7.8) per person inclusive of 4 dependents per year. Only 3.8% protested contributing to the scheme and 14.7% gave WTP zero, because they believed they are too poor to pay for insurance (Table 3).

Qualitatively, most of the FGD participants were also willing to make contributions for Health insurance. However, others resented making contributions as noted below;

"Sincerely the government is meant to provide all the medical services. So there is no way that you can lie to us that the government can't provide those services, we just keep quiet because we have nothing to do. If you are requiring people like my grand to join insurance before they receive treatment, does that mean that you want them to go to America, South Africa" **(FGD male-fishermen-Mayuge)**

A number of FGDs participants were not willing to pay because of poverty while others criticized government's misuse of taxes collected from the tax payer on salaries for officials rather than on health services as noted in the quotes below;

"The fact is poverty is the biggest hindrance. Because at times you can fall sick yet you don't have money and you resort to borrowing from colleagues who may not even be able to help you out because they also don't have. So generally, I disagree with paying for health insurance" (FGD-Business women -Mayuge district)

"I am not willing to pay because we are always charged a lot of tax to register our businesses that is all tax. Where does that tax go? Let them reduce the salary of

MPs such that part of it is utilized to buy medicine. MPs have no importance in our area" (**FFGD-Male-fishermen-Mayuge district)**

Willingness to Pay with Copayments;

Less than half (44.5%) of the respondents who were willing to pay, were willing to co pay. The mean co pay amount was UGX 2650 (USD.0.7) with a median of UGX 2000 (0.5). The average maximum amount of money that respondents were willing to pay with the copayment was UGX 23,000 (USD.6.2) and median of UGX 20,000 (USD.5.4) (Table 3)

Table 7: Willingness to Pay for the Proposed NHI

WTP	Frequency (%)	Mean	Median
Protests (WTP=0)	32 (3.8)	0	0
WTP=0	126 (14.7)	0	0
WTP>0	695(81.5)	**28,950**	**25,000**
Total	853 (100.0)	23,600	20,000
Copayment scenario			
Amount willing to copay	309/695(44.5)	**2,650**	**2,000**
WTP with co payment	309/695(44.5)	23,000	20,000

Notes; *Protests-those protested attaching valuing to HI (WTP=0 but it has no economic sense). WTP=0 means willingness to pay is actually zero. WTP>0 that it is positive -WTP is above zero.*

Mode of payments

Most respondents, 54.1% preferred to pay per year, while 21.0% preferred to pay per season. Only 13.1% wanted to pay according to their monthly income, with the majority 63.1% preferring to pay 1 percent of their monthly income, followed by those who were willing to pay 5%.

6.4 Perceived Ability to Pay for the Health Insurance Scheme

More than half (74.2%) of the respondents believed that they were able to pay for health insurance, with a mean of UGX 23000 (USD.6.2) and median of UGX 20,000 (USD.5.4) per person per year.

Regarding the perceived ability to pay, most of the FGD participants noted that most of the people are poor, and most likely may not be able to make periodic subscriptions especially if the money is hiked more than what people earn. This was attested to as indicated below;

> *"Sincerely speaking some people cannot afford to pay money, for instance you may find a very old person who is no longer earning anything yet they also need health care"* **(FGD-Boda-boda-Iganga district)**

Another FGD participant who was a business lady noted that

> *"I support the idea. But not very much because of the issue of affordability not everyone can afford to pay and note that we earn differently. Because some of us we play the role of mother and father in the family so there are a lot of requirements to provide"* **(FGD Business women Iganga)**

Furthermore, most of the participants noted that payments should be made on someone's incomes and ability to pay as noted below;

> *"Since everyone earns differently, the charges should depend on how much someone earns. I could be in position to afford 50,000 but yet my colleague cannot at all since people in the village are used to get free medicine. When some people are requested to pay just 500shs for drugs they will consider it not worthy because they know that drugs/medication is freely given. So, if possible, we charge according to people's income"* **(FGD- business women – Iganga district)**

6.5 Determinants for level of Willingness to Pay for Health Insurance Scheme

6.5.1 Bi variable analysis of factors associated with willingness to pay

At Bi variable analysis, wealth quintiles, having saving group membership, having a family member with chronic illness, use of traditional medicine and hearing about health insurance were statistically significant for willingness to pay for health insurance. The odds of willing to pay when in fourth wealth quintile were 2.88 that of the odds of willing to pay among those in the poorest category (COR; 2.88, 95%CI; 1.60-5.18, P<0.001). Not being in saving group reduced the chances of willing to pay for health insurance by 42% compared to those who had saving group memberships (COR; 0.58 95%CI; 0.33-0.69, P<0.001) (Table 4).

Table 8: Bivariable analysis of factors associated with WTP for HI

Variable	Level of Willingness to pay		COR (95%CI)
	No (n=158)	Yes (n=695)	
Sex of Household head			
Male	127(80.4)	540(77.7)	1.0
Female	31(19.6)	155(22.3)	1.18(0.76-1.81)
Age			
18-25	28(17.7)	96(13.8)	1.0
26-35	56(35.4)	247(35.5)	1.28(0.77-2.145)
36-45	44(27.9)	195(28.1)	1.29(0.76-2.20)
46 and above	30(19.0)	157(22.6)	1.53(0.86-2.71)
Residence			
Rural	110(69.6)	508(73.1)	1.0
Urban	48(30.4)	187(26.9)	0.84(0.58-1.23)
Education level			
Primary and below	97(61.4)	399(57.4)	1.0
Secondary and above	61(38.6)	296(42.6)	1.17(0.83-1.68)
Occupation			
Farmer	60(38.0)	267(38.4)	1.0
Business	32(20.2)	114(15.4)	0.80(0.49-1.30)
Boda boda	25(15.8)	107(15.4)	0.96(0.57-1.61)
Fishermen	41(26.0)	207(29.8)	1.13(0.73-1.76)
Wealth quantiles			
Poorest	43(27.2)	129(18.6)	1.0
Second poorest	32(20.3)	145(20.9)	1.51(0.90-2.53)
Middle	35(22.1)	128(18.4)	1.22(0.73-2.03)
Fourth	19(12.0)	164(23.6)	2.88(1.60-5.18) **
Wealthiest	29(18.4)	129(18.6)	1.48(0.87-2.52)
In saving group			
Yes	49(31.0)	337(48.5)	1.0
No	109(69.0)	358(51.5)	0.48(0.33-0.69) **
Family member with chronic illness			
Yes	36(22.7)	241(34.7)	1.0
No	122(77.2)	576(67.5)	0.56(0.37-0.83) *
Satisfied with health services			
Satisfied	57(36.1)	229(32.9)	1.0
Neutral	56(35.4)	223(32.1)	0.99(0.66-1.50)
Dissatisfied	45(28.5)	243(35.0)	1.34(0.87-2.07)
Ability to pay meet health care			
Difficult	112(70.9)	571(82.2)	1.0
Easy	46(29.1)	124(17.8)	0.53(0.36-0.78) *
Traditional Medicine			
Yes	59(38.8)	345(51.4)	1.0
No	93(61.2)	326(48.6)	0.60(0.42-0.86) *
Ever heard			
Yes	9(5.7)	83(11.9)	1.0
No	149(94.3)	612(88.1)	0.45(0.22-0.91) *

Note: *** p<0.001, *P<0.05*

6.5.2 Mult variable analysis of factor associated with willingness to pay

After adjusting for any confounding factors, Occupation, wealth, saving group membership, use of traditional medicine and hearing about health insurance were significantly associated with level of willingness to pay for the proposed health insurance scheme.

The odds of fishermen willing to pay for health insurance were 1.70 that of the odds of willing to pay among the farmers after adjusting for other factors (AOR; 1.70 95%CI; 1.04-2.79, P=0.035). Respondents in the fourth wealthy quintile were 2.98 times more likely to pay for health insurance compared to those in poorest wealth quintile (AOR; 1.70 95%CI; 1.04-2.79, P=0.035). Respondents who were not in any saving group were 0.51 times less likely to pay for the proposed health insurance compared to those with saving group membership (AOR; 0.51, 95%CI; 0.34-0.76, P<0.001) and individuals who had never heard about HI were 50% less likely to pay for the proposed National Health insurance compared to those who had ever heard about health insurance. (AOR; 0.50 95%CI; 0.23-0.86, P=0.032) (Table 7).

Table 9: Multi variable analysis of factors associated with WTP for NHI scheme.

Variable	Level of Willingness to pay		COR (95%CI)	AOR (95%CI)
	No (n=158)	Yes (n=695)		
Sex of respondent				
Male	127(80.4)	540(77.7)	1.0	
Female	31(19.6)	155(22.3)	1.18(0.76-1.81)	1.30(0.80-2.11)
Residence				
Rural	110(69.6)	508(73.1)	1.0	
Urban	48(30.4)	187(26.9)	0.84(0.58-1.23)	1.09(0.52-2.26)
Occupation				
Farmer	60(38.0)	267(38.4)	1.0	
Business	32(20.2)	114(15.4)	0.80(0.49-1.30)	0.59(0.26-1.35)
Boda boda	25(15.8)	107(15.4)	0.96(0.57-1.61)	1.04(0.50-2.18)
Fishermen	41(26.0)	207(29.8)	1.13(0.73-1.76)	1.70(1.04-2.79) *
Wealth quintiles				
Poorest	43(27.2)	129(18.6)	1.0	
Second poorest	32(20.3)	145(20.9)	1.51(0.90-2.53)	1.83(1.05-3.19) *
Middle	35(22.1)	128(18.4)	1.22(0.73-2.03)	1.23(0.70-2.14)
Fourth	19(12.0)	164(23.6)	2.88(1.60-5.18)	2.98(1.58-5.65) *
Wealthiest	29(18.4)	129(18.6)	1.48(0.87-2.52)	1.53(0.81-2.88)
In saving group				
Yes	49(31.0)	337(48.5)	1.0	
No	109(69.0)	358(51.5)	0.48(0.33-0.69)	0.51(0.34-0.76) **
Family member with chronic illness				
Yes	36(22.7)	241(34.7)	1.0	
No	122(77.2)	576(67.5)	0.56(0.37-0.83)	0.73(0.46-1.14)
Ability to meet health care				
Difficult	112(70.9)	571(82.2)	1.0	
Easy	46(29.1)	124(17.8)	0.53(0.36-0.78)	0.68(0.43-1.05)
Traditional Medicine				
No	59(38.8)	345(51.4)	1.0	
Yes	93(61.2)	326(48.6)	0.60(0.42-0.86)	0.71(0.48-0.92) *
Ever heard				
Yes	9(5.7)	83(11.9)	1.0	
No	149(94.3)	612(88.1)	0.45(0.22-0.91)	0.50(0.23-0.86) *

Note: *** p<0.001, *P<0.05*

CHAPTER SEVEN

DISCUSSION

7.0 Introduction

This study explored the acceptability, level of willingness to pay, WTP, perceived ability to pay and determinants for WTP for the proposed National Health insurance scheme among the informal sector workers in Iganga and Mayuge districts. The study applied a contingent valuation approach using a bidding game technique to elicit willingness to pay. This study reports a high level of acceptability and level of willingness to participate in the scheme, although a few protested the scheme citing lack of trust in the system and that government was running away from its responsibilities of providing care to its population.

This chapter highlights key findings, compares with existing literature and highlights key implications of the study findings.

7.1 Acceptability of the Health Insurance Scheme

The level of acceptability of the proposed National Health insurance scheme was high and majority believed that the scheme would be beneficial. This agreed with qualitative data where most of the participants supported the proposed scheme. The acceptability level in this study was almost close to the 89.0% acceptability that was reported in Sierra Leone (Jofre-Bonet and Kamara, 2018) but slightly higher than the reported 69.5% in Eastern Caribbean (Adams et al., 2015) and 76.4% in Ethiopia (Ololo et al., 2009). The high acceptability for the proposed National health insurance scheme in this study can be attributed to the frustrations the community is going through to access health care in public health facilities, so the health insurance scheme instills some hope to improve the quality of care in public health facilities. The high acceptability in this study therefore implies that the Ministry of Health needs to extend NHI to the informal sector which comprises a large sector of the economy with high chances of success since people are willing to participate.

However, a number of people protested the scheme because they felt that the government was running away from its responsibility of providing services, others lost trust in government programs, and others believed the money was going to be stolen. Similar resentments about health insurance have also been reported in countries like in Nigeria and Ghana, where people were not willing to participate in the scheme due to lack of trust in government programs (Oriakhi and

Onemolease, 2012). This eventually made enrolment to stagnantly remain very low. This implies that addressing the public fears and building trust within the beneficiaries about health insurance is paramount for the success of the scheme.

7.2 Willingness to Pay for the Proposed NHI

Most of the respondents (81.5%) were willing to pay for NHI, with a median willingness to pay of UGX 25,000 (USD 6.8) and a mean WTP of UGX 28,950 (USD 7.8) per person inclusive of 4 dependents per year. This level of willingness to pay was higher than the reported in Nepal (71%) and in South Sudan (68%) among the informal sector (Basaza et al., 2017, Barasa et al., 2017). However, the maximum amount of money people were willing to pay was lower than the 5.5 USD per person per month in Iran, 6.6 USD per person per month in Namibia, and Monthly 3 USD in Kenya (Nosratnejad et al., 2014, Gustafsson-Wright et al., 2009, Barasa et al., 2017). The differences in WTP across the different countries could be due to the differences in the socio-economic status of the different populations in the different countries. However, the maximum WTP in this study was also almost four times lower than the proposed 27 USD by the Uganda's Ministry of Health (NHI Bill, 2019). This raises the question of whether people will be able to pay the proposed premium per person per year.

The high level of willingness to contribute for health insurance highlights high chances of the scheme being successful. However, the suggested premium being higher than stated WTP may hinder many from participating in the scheme. But this also brings in a policy question of whether the WTP can sustain the scheme. Thus, the need for careful revision of the premiums before parliament passes the 2019 NHI bill.

7.3 Perceived Ability to Pay premiums and copayments for the Health Insurance Scheme

The ability to pay is another important consideration when planning to implement health insurance especially among the informal sector whose incomes are unpredictable. A high number of participants believed they could afford making periodic contributions towards health insurance scheme in this study. This finding further highlights the potential for the NHI to succeed if the informal sector is included. However, the ability to pay the proposed amount USD 27 (UGX. 100,000) by MOH may not be affordable given the fact that less than 20% of the studied population were in the wealthiest category. Thus as 2019 NHI bill awaits to be passed by parliament, policy

makers need to put into consideration the ability of the informal sector to pay the proposed 27 USD.

Although more than half of the respondents earned more than 100, 000 UGX (27 USD) a month, there are substantial sections of the informal sector that will struggle to pay for Health insurance and therefore these will require significant government subsidies to be included. This further highlight the need to consider the idea of making contributions as a proportion of peoples earning and wealth status because it would make people pay according to their ability and it is more equitable than just having a flat figure for all persons.

7.4 Factors Associated with Willingness to Pay for Health Insurance Scheme

One of the most important determinants for willingness to pay is trust and faith that people have in the scheme and systems. The respondents who were not willing to pay for HI cited lack of trust in government and systems because of the previous unsuccessful government programs and the bad insurance history in Uganda. This is in agreement with studies conducted in Nigeria, Burkina Faso and Cambodia which revealed that household heads who had greater trust in the scheme were willing to pay higher amounts than their counterparts (Ataguba et al., 2008, Gustafsson-Wright et al., 2009). These findings therefore imply the need for government to build confidence and trust among the populations prior to initiation of the health insurance scheme.

Local saving groups have become one of the most famous financial support systems in rural Uganda over the last decade (Mutebi et al, 2017). Saving and Burial groups present an opportunity to leverage on, in enhancing accessing to health care in rural communities (Baine et al, 2018). In this study, less than half of the respondents were in a saving group. Having saving group membership increased the likelihood of willing to pay for the proposed National Health insurance scheme. In Asian countries saving groups were reported to be key in initiating community-based health insurance schemes (Sheikh et al, 2017). Saving groups provide members with a secure place to save money, generate a pool fund, and an opportunity to borrow in small amounts, and affordable basic insurance services and enables community to meet the premiums (Sheikh et al, 2017). This therefore implies that as countries plan to initiate NHI, saving groups become a great resource to tap into to ensure community participation payment of the premiums for the scheme.

Participants belonging to wealth category were more likely to pay for the proposed National Health insurance scheme. This is in agreement with studies conducted in Nigeria, Ethiopia and Ghana which have reported that socio-economic factors such as poverty, income or wealth status, have a bearing on ease or difficulty of enrolling into a given scheme, with high premiums deterring enrollment into schemes (Kotoh et al., 2018, Odeyemi, 2014, Mebratie et al., 2015). Similar studies conducted in Sierra Leone and Iran showed that the WTP for the HI scheme depended on the monthly income of the respondent (Jofre-Bonet and Kamara, 2018, Nosratnejad et al., 2014) . In Nepal, belonging to a lower wealth quartile was associated with a lower willingness to pay for National Health Insurance Scheme (Khatiwada et al., 2017). This therefore underscores the need for income generating projects to be implemented within the communities to aid them make contributions for health insurance.

The quality of services is a great contributor to WTP for health insurance. Many respondents noted the poor quality of services especially in the public health facilities and this was also confirmed by the some of the health facility in charges. The poor quality of services in public health facilities was viewed by most of the health workers as a major hindrance for the success of the scheme. This is comparable to studies conducted in Burkina Faso and Nigeria which revealed that Individuals that perceived quality of care as good were more willing to pay for health insurance than those who perceived the quality of services to be poor (Ataguba et al., 2008, Dong et al., 2009). In Nigeria, the dissatisfaction of patients which manifested as provider rudeness, preference given to cash-paying uninsured patients, long waiting queues and differential treatment hindered both renewal of membership and enrollment (Onwujekwe et al., 2009). The study findings imply that as countries plan to implement health insurance, there is need to guarantee quality of services in order to enhance participation in the scheme and maximum WTP.

The use of traditional medicine was negatively associated with participation in the health insurance scheme. This is because members who use traditional medicine see no need to utilize modern health care services hence less likely to pay for health insurance. Studies have shown that the presence and use of alternative medicine and other forms of healthcare such as herbalists negatively affects participation in a health insurance scheme, since insurance requires regular use of modern medicine. Studies conducted in Cameroon, Burkina Faso, Nigeria and India have reported that those who use modern medicine are more willing to pay for Health insurance than

those who use traditional medicine (Mathiyazaghan, 1998, Donfouet et al., 2013, Oriakhi and Onemolease, 2012). In Uganda's pluralistic health system, the ministry of health and other mandated regulatory bodies need to institute measures that not only regulate the alternative sector but ultimately attract people to use modern medicine as opposed to traditional medicine.

Not hearing about Health insurance was associated with 50% less WTP compared to those who had prior information about Health insurance. However, the level of knowledge on how health insurance operates was very low and statistical tests of significance could not be used in this study. However one systematic review and meta-analysis of factors influencing WTP for voluntary contributary health insurance scheme in LMICs has revealed that knowledge and understanding of the functioning of the scheme positively influences the willingness to pay and participate in the scheme (Adebayo et al., 2015, Dror et al., 2016). As the Ugandan government moves to implement health insurance, information, education and communication are paramount for the success of the proposed scheme.

7.5 Study Limitations

As with most contingent valuation studies, the elicitation technique is always subjected to bias and the assignment of the first bid/amount is also biased. However, this was triangulated with an open-ended question and qualitative data. The low-level of knowledge about health insurance among respondents also was limitation factor for attaching value to the proposed scheme. This was solved by educating the respondent about health insurance before elicitation of willingness to pay.

CHAPTER EIGHT

CONCLUSION AND RECOMMENDATIONS

8.1 Conclusion

Objective 1

The study revealed a high level of acceptability of the health insurance scheme among the informal sector and majority believed the scheme would be beneficial. This provides evidence of the acceptability which provides the government with an opportunity to extend the scheme among the informal sector.

Objective 2

In this study also, the majority of the informal sector believed they could afford to make periodic contributions for health insurance. Although the ability to pay amount is far below the proposed amount in NHI bill. Thus, the need to revise the premiums bearing in mind that a large section of the informal sector will struggle to meet the proposed premiums. However, ability to pay studies needs to be conducted as this study is based on perceived ability to pay for health insurance schemes.

Objective 3

The level of willingness to pay was high. However, the actual amount participants were willing to pay was lower than the proposed in the National health insurance Bill. This further indicates that the informal sector is willing to make contribution to their health and thus feasible for the government to introduce a contributory scheme and the public bears some costs towards their health care.

Objective 4

The determinants for willingness to pay were occupation, wealth status, , use of traditional medicine and having ever heard about health insurance. This implies that building trust among households and improving awareness and quality of care are critical to the success of the scheme.

8.2 Recommendations

1. Given the high level of acceptability and willingness to pay, the Parliament of Uganda needs to consider passing the NHI 2019 bill to allow the MOH to implement the NHI scheme among the informal sector. However, considerations need to be made as regards to the ability of the informal sector to pay the proposed USD 27 per person per year.
2. There is need for MOH to consider revising the proposed USD 27 premium as this will be affordable to only a few, and set premiums according to the ability to pay or basing on wealth status so as to cater for the 40% of the population who are in the poorest wealth quintiles.
3. There is need for MOH and the district health departments to design an information education campaign to sensitize the general public about how health insurance works and to buy in and build trust among the informal sector.
4. The Ministry of Health should ensure that the quality of health care services is improved, by ensuring that health facilities are stocked with essential drugs and supplies at all times, fill vacant posts of health workers and increase on the staffing levels to reduce long waiting times at health facilities, and sensitize health workers to reduce their rudeness towards patients so as to handle patients well
5. The ministry Gender Labor and Social Development together with community development officers need to support the existing local saving groups through training and helping them save in banks as opposed to boxes which are prone to theft and encourage people to join them as these would enable most of the informal sector to meet premiums.
6. There is need for government and development partners to boost income generating projects especially in rural communities by encouraging the informal sector to invest and starting up small scale business, diversify sources of income in order for them to be able to afford premiums.
7. A detailed ability to pay study, including a means test and identifying the indigents, needs to be conducted by researchers to ensure equitable contribution of premiums within the informal sector.

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APPENDIX

1.1 Consent Form

Study Title**:** *Acceptability and willingness to pay for the proposed National Health Insurance scheme among informal sector workers in Iganga and Mayuge district. A contingent Valuation tudy.*

Introduction

Hello,

My Name is ……. From Makerere University, School of public health. I am carrying out a study to assess the willingness of the informal sector in Iganga and Mayuge districts to pay for the proposed NHI scheme.

Purpose of this research study

The purpose of this research is to assess the level of acceptability, willingness and ability to pay for the proposed National Health insurance scheme and the associated determinants among the informal sector workers in Iganga and Mayuge districts in order to provide evidence to guide strategies for increasing enrollment rate for the NHI in Uganda and also provide a basis for amending the 2014 NHI Bill

Participation in the study

We are requesting you to participate in this study because you belong to the informal sector and you are expected to willingly pay for the proposed NHI scheme. Your participation in this study does not expose you to any harm. Your participation is voluntary. There is no penalty for refusing to take part in this study. However, if you accept to take part, the interview will last about 30 minutes. Also, you may stop the interview at any time.

Possible Risks and Benefits

We anticipate no risk for you to participate in this study; however, you may feel uncomfortable to respond to some questions. You do not have to answer any questions if you do not want to. There are also no direct benefits to you for taking part in this research. However, the findings, hopefully, will be used to set a suitable amount that is affordable to most of the people in the informal sector and also design strategies to ensure that people enroll and pay for health insurance

Confidentiality

We will protect the information about you and your taking part in this research to the best of our ability. The interview notes will be stored in a locked cabinet and only the staff working on this research will be able to use them. We will destroy the notes when the research is complete.

Compensation

You will not be paid for this interview.

If You Have a Problem or Have Other Questions

If you have a problem that you think might be related to taking part in this research or any questions about the research, please contact the Principal investigator Mr. Namuhani Noel on 0778708631. OR, The chair of the Institutional Review Board (IRB) at, Makerere University School of Public Health Telephone 256-41-250499/ 256-41-705500.

Agreed to participate in the study 1 yes 2 No

Written Informed Consent for respondents

I have read and/or been fully explained the information concerning my participation in this study and I understand what will be required of me if I take part in the study.

My participation is voluntary.

I will be required to respond to questions.

I understand that I may withdraw from this study at any time without giving a reason.

My signature/thumb print below indicates that I agree to take part in this study.

Date _____

Respondent's Signature: _____

Interviewer's name …….

Interviewer's Signature …….

Data Collection Tools

1.2 Tool 1: Semi Structured Questionnaire

Title; *Acceptability and willingness to pay for the proposed National Health Insurance Scheme among informal sector workers in Iganga and Mayuge districts; A contingent valuation study*

District;	Sub-County:	Parish:
Village		
ID No	Date	
Interviewer name		
Section A: Socio-demographic (Circle the most appropriate response)		
1.	Sex of respondent	1 Male 2 Female
2	Sex of the household head	1 Male 2 Female
3.	Age of respondent (complete years)	
4.	Residence	1. Rural 2. Urban
5.	What is the marital status of the household head?	1. Single 2. Married 3. Separated 4. Widowed
6.	What is the level of education	1. None 2. Primary 3. Secondary 4. Tertiary
7.	What is the religion	1. Catholic 2. Protestant 3. Moslem 4. Seventh Day Adventist (SDA) 5. Born again 5. Others (Specify) …….
8.	What is your occupation	1. Farmer 2. Business/trader

		3. motorcyclists /bicycle 4. others (specify)….
9.	What is your average monthly income	
10	Do you possess any of the following items (SES)	1. Car… 2. Motor cycle 3. Bicycle 4. Radio 5. Television 6. Mobile phone 7. Piece of land 8. owns a house 9. animals (cows, goats , Hens, pigs,)
11	How many people sleep in your household	
12	Number of dependents	
13	Are you in any form of saving groups, or SACCO, women group?	1. Yes 2. No
14	If yes, What do you save for ?	
	Demand side factors	
15	Is there anyone in your family with a chronic illness	1. Yes 2. No
16	If yes, How many	
17	How do you rate your health status	1. Very Poor 2. Poor 3. Good 4. Very good
18	Have you or any of your family member fallen sick in the past one *months*	1. Yes 2. No
19	Did you seek treatment	1.Yes 2. No
20	If yes, please where did you seek treatment (tick more than one response)	1. Public health facility 2. Private health facility 3. Self-treatment 4. Other (traditional healer/herbalist)
21	How far is the health facility from your home	
22	How satisfied are you with the health services in your health facilities	1. Very Satisfied 2. Satisfied

		3. Neutral 4. Dissatisfied 5. Very Dissatisfied
23	How do you perceive the quality of care in your district/health facility	1. Very low 2. Low 3. Neutral 4. Good 5. Very good
24	Please could you estimate how much you spent in the last pro longed period of sickness	….
25	What was the source of the funds	1. Self 2. Relative 3. Borrowed 4. Government 5. Others (specify)….
26	How do you find your ability to meet health care costs of your family?	1. Very difficult 2. Difficult 3. Not difficult 4. Very easy
27	Give a reason for your answer	
28	Do you use any alternative medicine	1. Yes 2. No
	Awareness about Health insurance	
29	Have you heard about Health insurance	1. Yes 2. No
30	If yes, what is the source of information	1. Radio 2. TV 3. Health workers 4. Newspapers 5. Friends 6. Others(specify)…..
31	If yes, what do you understand about Health insurance probe; (*how does health insurance work*)	
	Acceptability, Willingness and ability to pay for the proposed NHI scheme	
	Preamble; (*The interviewer explains the meaning and principal of health insurance and proposed NHI to the respondent*).	

	Health insurance is a mechanism of making periodic prepayments against episodes of illness to enable the payer to obtain healthcare services when needed without paying out-of-pocket at the point of need. It involves sharing the cost of healthcare. In attempt to improve access to quality healthcare services, Uganda has proposed to roll out NHI (MOH, 2017). It will be mandatory for the formal sector workers who will contribute 4% of their monthly salary and voluntary for the informal sector workers who are expected to pay some money Per annum per person and 4 dependents.	
32	Are you enrolled in any form of health insurance/any saving group for health?	1. Yes 2. No
33	What are some of your experiences	
34	Do you think the proposed scheme is beneficial	1.Yes 2. No
35	Give a reason for your answer	
36	Would you accept to participate in the proposed NHI scheme	3. Yes 4. No
37	If yes, why	
38	If no why	
39	Would you be willing to contribute money towards NHI scheme	1. Yes 2. No
40	If No why	
41	If yes, would you be willing to pay 20,000 UGX per year towards health insurance	
42	If the respondent is willing to pay for the first bid, 20,000. Ask him/her if he/she is willing to pay each of the following until he says No. *Model question*; if the premium is set at 110000 UGX, per year for the same benefit package/health insurance, are you willing to pay (*Put a tick on the amounts he says yes)*	1. UGX. 30, 000 2. UGX. 40,000 3. UGX. 50,000 4. UGX. 60,000 5. UGX.70,000 6. UGX. 80,000 7. UGX. 90,000 8. UGX. 100,000 9. UGX. 110,000

		10. UGX. 120,000 11. Above 120,000 (specify the maximum you are willing to pay……
43	If the respondent is not willing to pay the first bid, 2,000. Ask him/her if he/she is willing to pay each of the following until he says Yes. *Model question*; if the premium is set at,90,000 ugx, for the same benefit package/health insurance, are you willing to pay (*Put a tick on the amount he says yes*)	1. UGX. 19,000 2. UGX. 18,000 3. UGX. 17,000 4. UGX. 16,000 5. UGX. 15,000 6. UGX. 14,000 7. UGX. 13,000 8. UGX. 10,000 9. UGX. 5,000 10. Below 5000
44	Can you afford to pay money for health insurance	1. Yes 2. No
45	How much do you think you are able to pay (without having to forgo some of the basic needs	
46	To prevent beneficiaries from using services unnecessary, a fee called copayment is introduced, where one pays small amount of money each time, he/she visits the facility. Would you be willing to co pay for services	
47	How much copayment are you willing to pay	
48	How much are you willing to pay for health insurance per year with a copayment fee you have mentioned	
49	What mode of payment would you like?	1. Weekly, 2. Monthly, 3. Per Season 4. Per year,
50	Would you like to pay according to your salary /monthly income	1. Yes 2. No
51	If yes, what percentage of your salary are you willing to pay	1. 1% 2. 5% 3. 10% 4. Others(specify)…..

1.3 Tool 2: Focus Group Discussion Guide

Title; *Willingness to pay for the proposed National Health Insurance Scheme among informal sector workers in Iganga and Mayuge districts; A contingent valuation study*

Background information

Subcounty…….. Parish……..Village…….

Date of discussion……. Number of participants……

Type of FGD……
Name FGD chair…….. Other research assistant

Questions

Generally, how do you look at the healthcare in this area (access, availability, quality)

1. What do you understand by the term health insurance? (probe, ever heard about insurance, meaning, principle, benefits)
2. How many of you are enrolled in any health insurance scheme or saving group that saves for health? and what are your experiences (benefits, problems/challenges etc)

Give a preamble of health insurance; *Health insurance is a mechanism of making periodic prepayments against episodes of illness to enable the payer to obtain healthcare services when needed without paying out-of-pocket at the point of need. It involves sharing the cost of healthcare. In attempt to improve access to quality healthcare services, Uganda has proposed to roll out NHI (MOH, 2017). It will be mandatory for the formal sector workers who will contribute 4% of their monthly salary and voluntary for the informal sector workers who are expected to pay some money Per annum per person and 4 dependents.*

3. Given the above preamble, are you willing to accept to participate in the proposed scheme (if yes, why and if no why)
4. Are you willing to pay for the above scheme, and how much are you able to pay
5. Do you think people in this community have the capacity to pay for health insurance every year (Give reasons for your answer? And how much are most people able to pay

6. When do you think people should pay this money and why
7. what do you think about this government proposal to introduce NHI (beneficial, possible, will it work, acceptability (useful, do we need it, is this the main way of solving challenges, will people be able to continue paying without defaulting, hiw should the government collect the premiums, , affordability do you think people can afford making regular payments say per year, per month, per season, or people are poor? Explain your opinion)
8. what should the government do to ensure that many people who belong to the informal sector enroll and participate

1.4 Tool 3: Key Informant Guide

Title; *Willingness to pay for the proposed National Health Insurance Scheme among informal sector workers in Iganga and Mayuge districts; A contingent valuation study*

Background information

Id of the key informant interview…….

Name of facility …….

Sex……

Age…….

Duration worked in the facility …….

Questions

In attempt to improve access to quality healthcare services, Uganda has proposed to roll out NHI (MOH, 2017). It will be mandatory for the formal sector workers who will contribute 4% of their monthly salary and voluntary for the informal sector workers who are expected to pay some money Per annum per person and 4 dependents.

1. Please what is your take on this, do you think this will work, do you think people especially those in the informal sector will enroll and pay for the scheme (acceptability, affordability, ability to pay, and how much)
2. Do you think the health facilities are prepared to implement health insurance (probe for availability of health workers, quality of services, availability of supplies etc)
3. What barriers do you think will hinder people from enrolling into the scheme?
4. What do you think needs to be done to ensure high enrollment of informal sector workers in the scheme?