

**HEALTH INSURANCE COVERAGE AND FINANCIAL
PROTECTION AMONG SLUM DWELLERS IN TANZANIA:
A CASE STUDY OF DAR ES SALAAM REGION**

By

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**A Dissertation submitted in partial fulfillment of the Requirement for the
Award of Masters of Science Degree in economics (MSc.ECON) of Mzumbe
University**

2019

CERTIFICATION

We, the undersigned, certify that have read and hereby recommend for acceptance by Mzumbe University, a dissertation entitled “HEALTH INSURANCE COVERAGE AND FINANCAL PROTECTION AMONG SLUM DWELLERS: A CASE STUDY ON DAR ES SALAAM REGION”, In partial fulfillment of the requirements for the honour of the Master of Science in Economics of Mzumbe University.

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ACKNOWLEDGEMENT.

The analysis has been through with several challenges therefore not creating it straightforward, with this i might wish to acknowledge my deepest appreciation to those who participated during this work and created this work a completionFirst I would like to thank God to whom I owe my wellbeing and success.

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DEDICATION

This thesis is devoted to the almighty God for his endless grace, blessings, mercy and protection through-out my study amount and to my parents Mr. Evans Buhire as well as Mrs Daphinea Buhire for all the love as well as Ndisha Kimala for encouragement and support they always gave me, God bless you.

ABBREVIATIONS AND ACRONYMS.

BRN	-	Big Results Now.
CBHI	-	Community Based Health Insurance.
CHE	-	Catastrophic Health Expenditure.
CHF	-	Community Health Fund.
GOVT	-	Government.
MHI	-	Mandatory Health Insurance.
OOP	-	Out Of Pocket.
SDG	-	Sustainable Development Goals.
SHI	-	Social Health Insurance.
THE	-	Total Health Expenditure.
UHC	-	Universal Health Coverage.
UNMDG	-	United Nations Millennium Development Goals.
WHO	-	World Health Organization.

ABSTRACT

Universal health coverage is an objective for most countries. It enshrines the key elements of how health systems can contribute to the betterment of health in general. We looked at the definition in terms of WHO (2005) which involves access to key promotive, preventive, curative and rehabilitative health interventions, while guaranteeing adequate protection against financial risks. The research was enshrined in talking of health insurance coverage but not in general population but to those who reside in slum areas, these areas have their own characteristics in terms of poor economic, environmental as well as poor security status. The research involved Tanzania because only 20% of all Tanzanians have access to health insurance, Dar es Salaam region was taken as the case study whereby the municipalities of Kinondoni, Ilala, as well as Ubungu were taken into consideration due to high rural-urban migration as well as high rate of urban growth in the region. The research generally aimed to analyse health insurance coverage and financial protection among slum dwellers in Dar es Salaam when faced with unforeseen health contingencies. The research study involved 2 models that which included the binary model through probit regression this was aimed for the regression of the factors influencing ownership of health insurance among those slum dwelling individuals the other model included the ANCOVA model that aimed in regressing out of pocket payments in order to measure the financial protection that health insurance owners may be provided by purchasing health insurance, with the study containing 400 individuals as sample size with 162 individuals that were seen to possess health insurance, questionnaires and interview were used as the data collection method was purposive sampling. The results of the collected information showed that many of the individuals had no health insurance in terms of percentages we see that 59.5% of the sample taken had no health insurance, while 40.5% of the sample taken had access to health insurance whether private or public health insurance, while in terms of out of pocket payments, we noticed that 16,160 TZS was the average out of pocket payments of individuals when purchasing health services. The government and its sub-sectors can come up with strategies that involve education towards the individuals so as to increase health insurance knowledge among the regions of Tanzania.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Universal health coverage is a vital and accepted objective for many countries. It enshrines the key parts of how health systems will contribute to the betterment of health normally. It's outlined consistent with the World Health Organisation (2005) as access to key encouraging, preventive, curative and rehabilitative health interventions, whereas guaranteeing adequate protection against monetary risks. Universal coverage has 3 dimensions: population coverage, service coverage, and value coverage. Several countries are actively moving forward on the trail to universal coverage and so they need to be used totally different methods thereto finish. It should take several decades to achieve universal coverage as incontestable in most western European countries. But nations like Korea, Thailand and Taiwan are quite totally different as they achieved full population coverage rather speedily and are remodeling this into the total notion of universal coverage, (Evans et al, 2010).

Health care financing is among the key part of a practical health system and as an instigator towards universal health coverage, funding of health care concerned three aspects; particularly revenue assortment, risk pooling, and purchasing. In recent years there has been a growing demand for access to prime quality and reasonable look after all, so the govt. is committed to responding with a method of developing a health funding strategy. Thus in the inspiration of receiving quality and affordable health care, this has led to the spurring of calls for universal health coverage. In 2005 the Universal Health Coverage (UHC) movement led to the World Health Assembly to call on governments to develop their health systems so that all people have access to services and do not suffer financial hardship paying for them that is (financial protection).

Thus in December year 2012, the movement prompted the world organisation General Assembly to appeal governments to desperately and considerably rescale efforts to accelerate transition towards universal access to reasonable and quality

health care services, thus governments through their key ministries and departments reforms tried to meet the needs of the population; thereby instigating the progress towards the Universal Health Coverage scheme, (Giedion et al, 2013).

According to the World Health Organisation (2018), financial protection is at the core of universal health coverage (UHC) and one in all the ultimate coverage goals. Health finance policy directly affects monetary protection, this is often because of monetary protection is achieved once direct payments created to get health services don't expose folks to financial hardship and do not expose people to financial hardship and do not threaten living standards.

Providing money protection against the economic consequences of malady lies at the guts of the adoption of insurance. As Nyman (1999) states; "Why do individuals purchase health insurance? several economists would answer that it permits purchasers to avoid the chance of monetary loss." quite two billion individuals board developing countries wherever health systems are stricken by unskillfulness, inequitable access, inadequate funding, and poor quality services. These individuals account for ninety two of world annual deaths from communicable diseases, sixty eight of deaths from non-communicable conditions, and eightieth of deaths from injuries. the World Health Organisation (WHO) estimates that quite a hundred and fifty million of those individuals suffer money catastrophe per annum, having to create surprising out of pocket expenditures for costly emergency care, (Escobar et al, 2010).

In most Low and Middle income nations of Africa many nations have been regarded to have a 3.5% annual growth in the last 20 years with a target of going on to 2050. Also projections show that within 2010 and 2025 some cities in Africa are to account to upto 85% of the population of the nation. The difference in the cities are the second highest within the world with a gini coefficient median of 0.58, well on top of the typical 0.4. so urbanization in continent as aforesaid has for the most part been translated into rising slum establishments, increasing financial condition and difference. but like their categorizations of the many nations conjointly involving the nations within the developing continent of Africa such as in the massive variations of

the patterns of urbanization across African regions. North Africa encompasses a higher proportion of the urban population (47.8%) relative to geographical area (SSA) (32.8%). As most of the migrants from rural areas are uneducated /unskilled, they find yourself within the informal sector that accounts for 93% of all new jobs and 61% of urban employment in continent. Since incomes from the informal sector are by their terribly nature low and skimpy, most migrants naturally look for shelters or become tenants of slum landlords. As a consequence, several African cities ought to deal not solely with slum proliferation however conjointly with a correlation of accelerating insecurity and crime,(African Development Bank, 2012).

African continent has more than 570 million slum dwellers with regard from a population of 1.1 billion individuals, though there different projections that are put forward by the time the continent reaches 2020 with a projected increase. Development agencies are sure that the African nations will continue to experience slum dwelling houses despite the U.N. Millennium Development Goals targets which want many of the nations to make big improvement within the lives of atleast 100 million slum dwellers by 2020. In the aspect of this target, many nations of North Africa have done well in this and considering examples of nations such as Egypt, Tunisia, and Morocco that have almost halved their slum-dwelling populations, most of the challenge lies with the SSA countries. The slum settlements that are home to many individuals with difficult environment bring a knock on effect in other sectors such as of education as well as the health sector. (Moyo, 2015)

Therefore generally we can say that the majority of the world's population lives in urban areas, and across both Africa and Asia, the urban population is expected to double between 2000 and 2030. Also according to the United Nations statistics of (2012) interms of Tanzania, it is that the country in line with global trends is urbanizing rapidly, with its urban population currently growing at 4.7% per annum. Though growth is promoted it has its challenges that are as Tanzania's urban centers have grown, access to basic services has declined and urban planning has failed to keep up with rising demand for land and services. This is especially true in Dar es Salaam according to the National Bureau of Statistics (2009) where 70% of residents live in unplanned settlements, defined as "a group of individuals that live under the

same roof that lack one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living space, durability of housing and tenure” and also over half of them survive on roughly a dollar per day, (Collins et al., 2012).

In 2000, the World Health Organisation (WHO) recognized fairness in health finance, collectively of its 3 core health system goals. Fairness in health funding and protection against money risk recommend that accessing health care mustn't impose much hardship on affected households. Promoting fairness through health system funding promotes implication on the far side up health standing. it's calculable that globally, concerning a hundred and fifty million are faced with Catastrophic health expenditure (CHE) annually owing to direct payments for health care whereas about one hundred million are driven into impoverishment. This is mainly because such people lack prepayment schemes and have to pay for health care at the point of service. With the characteristics of many slum areas, there is poor environment an example such as water and sanitation coverage regress in many areas, pit latrines which are the most common form of sanitation, are poorly constructed and often collapse during the rainy season. Health shows to be a common problem for many individuals in areas and situations such as these. According to the WHO, Tanzanian adults live with diseases such as cholera, tuberculosis as well as urinary tract infections to both males and females in correlation with being plagued with poverty, individuals residing in slum areas in Tanzania prove to live under challenging conditions, notably due to the speed of transmissions and unsanitary conditions, resulting in low levels of health and continuing severe poverty, (Collins et al., 2012).

Between 2002 and 2013, in real terms, the government of Tanzania health expenditure decreased at a proportion of total health expenditure from 45% to 36%. In terms of the share high proportions of Tanzania's total health expenditure (THE) are supported by foreign donors (48% in financial year (FY) 2011/12) and household/out-of-pocket (OOP) payment (33% in FY 2011/12), instead of from property or paid sources like general government income or insurance. however with continuation down the years a reversal was seen as there was an increase within the (THE) as a share of the entire government took into account in FY 2015/16, the

entire health budget grew with modesty from the previous year (9.1% to 11.3%, excluding consolidated fund services), however this growth was driven mostly by a big on-budget foreign element. Out of pocket payments for health will cause households to incur ruinous expenditures, that successively will push them into poor economic condition. Key to protective individuals is to confirm pre-payment and pooling of resources for health, instead of hoping on individuals paying for health services out of pocket at the time of use(World Health Organisation, 2018).

1.2 Statement of the problem.

When individuals have to pay fees or co-payments for health care, the amount can be so high that it results in “financial catastrophe” for households. Thus can lead to people having to cut down on necessities such as food and clothing, or are unable to pay for their children’s education. Also every year approximately 44 million households throughout the world face catastrophic expenditure and about 25 million households are pushed into poverty by the need to pay for services. The Tanzania’s government envisions a nation where mandatory health insurance is the key driver of healthcare delivery whereby in 2017 aimed in striving to expand health insurance coverage to 50% of all Tanzanians by 2020. Nevertheless making the scheme workable will require decisions and strategies that would help all Tanzania’s appreciate the value of being insured (The government had a Mandatory Health Plan since 2015, but which hasn’t been tabled). Interms of other nations like Rwanda and Ghana where health coverage is 80% and 60% respectively, interms of the Tanzanian nation only about 30% of the people can access health insurance , the rest over 35 million are forced to dig into their pockets when they want to access services at health facilities. (Buguzi, 2017),

Having insurance is thought to be important as uninsured individuals receive less treatment and fewer timely care, therefore true significance of getting insurance is that it covers essential edges vital to maintaining your health and treating accidents, provides protection from surprising high medical prices that's monetary security, additionally having availability of preventive care like vaccines, screenings and a few check-ups, even before meeting a person’s deductible, availing adequate

Medicare while not the fear of insufficiency, further as access to tax edges. (Bovbjerg, 2007)

As of June 2013, NHIF was calculated to be covering regarding 6.6% of the population whereas CHF covers regarding 7.3% of the population supported the 2012 census. Other schemes cover less than 1% of the population, low coverage in insurance finishes up in overreliance on direct payment at the aim of use of health care, whereby inflicting financial strain to many people who want access and use of health services, that's among the basic downside that restrains the move towards universal health coverage in many developing countries. (NHIF, 2013)

Thus if we consider it, Health insurance is seen significant to many individuals especially to the poor and marginalized people from the challenges of accessing healthcare. Tanzania guarantees health covers for people who are formally employed, those who are in the informal sector have to pay out of their pockets to access health services. Various reports in Tanzania and other nations indicate that out of pocket payment system has far reaching financial implications on the lives of the poor majority because of catastrophic health expenditures, leading to the aim of the study as to look at the slum dwellers living in the urban population of Dar es salaam basing on the health insurance coverage in these slum areas and measurement of their out of pocket payments for those with insurance cards and those without so as to determine the financial protection of the insurance card whether it reduces the economic pressure when faced with health difficulties as seen by the slum dwellers.

1.3 Objectives of the study.

1.3.1 General Objective.

The aim of the study will be to analyze the relationship of health insurance coverage and out of pocket expenditure among slum dwellers in Dar es Salaam when faced with unforeseen health contingencies.

1.3.2 Specific objectives.

- i. To analyze the extent of insurance coverage among slum dwellers
- ii. To examine the factors influencing ownership of health insurance among slum dwellers.
- iii. To examine the effect of health insurance on out of pocket expenditure among slum dwellers.

1.4 Research Questions.

- i. What is the extent of spread of health insurance schemes?
- ii. What are the factors influencing ownership of health insurance with regards to slum dwellers?
- iii. What is the effect of health insurance on out of pocket health expenditure among slum dwellers?

1.5 Scope of the study.

The analysis can involve unplanned settlement areas (slum areas) within the city of Dar es Salaam where-by the unit of research are the slum dwellers and their households in those areas.

1.6 Significance of the study

The study will add knowledge on the susceptibility of slum households in acquiring/possessing health insurance in dealing with unforeseen contingencies, as is the aim of international organizations (WHO) for each nation to achieve health insurance coverage so as to have Universal Health Coverage.

The study will provide insight into how health insurance impacts household expenditure and whether it offers financial stability through financial protection of the household.

The study findings will also provide more insight to policymakers, insurance companies as well as the government to design health policies and actions that will improve and accommodate most Tanzanians regardless of their age, income, employment status in the health system without.

1.7 Justification of the study.

The NBS reports that more than 60% of individuals live in unplanned areas in Dar es salaam as it is the economic hub of the nation, with the characteristics of slum dwellings, individuals in these areas are with economic as well as environmental difficulties. Considering Tanzania's vision of increasing health insurance coverage to 50% of all Tanzanians by 2020 since only about 30% of the people can access health insurance the rest tend to access health care through out of pocket payments thus the study thought it significant to acquire information in the region of Dar es salaam on how much coverage has expanded as well as the influence of health insurance on OOP.

1.8 Organization of the study.

The organization of the study was categorized through different chapters whereby (chapter one) was expressed through the main objective which is to analyze health insurance coverage and financial protection among slum dwellers in Dar es Salaam when faced with unforeseen health contingencies.

(Chapter two) involved the literature review that discussed the phases such as definition of concepts, the theories to be used such as the *Human capital model of health demand* and *the theory of expected utility*, finished off by the conceptual framework involving the two studied concepts of ownership of health insurance and the out of pocket expenditure of individuals analysed through their specific factors involving the impact of health insurance on OOP that aim to fulfill the specific objectives.

(Chapter Three) involved the research methods meaning areas of study which involved the Dar es Salaam region with its municipalities, the use of the probit model, OLS linear regression, as well as the 2Stage Residual Inclusion model in terms of the analysis of the models involved, and thus the collection of primary data through different measures such as questionnaires as well as interviews, thus finishing chapter three, and heading forward.

(Chapter Four) involved analysis of data, in the research in question it involved using applications such as STATA 13 as well as SPSS this is to regress and perform interpretations in question. Chapter four acts as the information conduit for the study and details all about the research in question in terms of ownership of health and out of pocket payments.

(Chapter five) Present the discussion and interpretation of the study findings. Thus in chapter five different studies have been consulted so as to do a comparison with the study in question. It has a comprehensive discussion of the findings in light with the research in question.

(Chapter Six) Involved the conclusion, policy implementation and area of further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter, a review of some related concept with the topic in the study will be explained with regard to different contexts from different researchers. The review will base on the extent of health insurance coverage as well as its financial protection among slum dwellers in Dar es Salaam. The review will touch on; Definition of concepts, the review will also explain the different theories and studies conducted in relation to the relevant phenomena, also an explanation of the conceptual framework drawn

2.2 Definition of terms.

2.2.1 Health Insurance Coverage.

Health insurance coverage has been bit by bit increasing among the Tanzanian population since its introduction over a decade past. Ifakara health institute in 2008 recommended that national coverage was around Sep 11 in the year 2012. more modern figures released by the Ministry of Health and financial aid in 2011 technical review meeting recommended that around 17.1% of the national population is insured by the NHIF/CHF/TIKA, whereby 7.3% by the NHIF, 9.8% by the CHF/TIKA and an additional calculable I Chronicles is insured through the remaining schemes. leading to associate degree calculable eighteen.1% total national coverage. The health sector strategic arrange III targeted a 30% insurance coverage across the population by 2015. (IFI, 2012)

There is a large variation in insurance coverage by socio-economic standing. Unsurprisingly, insurance cover has been seen to be higher among the wealthy. The 2008 SHIELD unit survey knowledge indicate that 13.5% of the richest groups were insured compared to four-dimensional of the poorest groups. The below Table may be a comparison between the Tanzania Data Household Survey of 2010 and therefore the SHIELD household survey, were they counsel an identical distribution of coverage by the wealth cluster. therefore below is that the overall amount of money by wealth cluster

Table 2.1 showing distribution of coverage by the wealth group.

Wealth Group	SHIELD %	TDHS %
Poorest	4	2
2nd poorest	5	2
Middle	5.8	4
2nd richest	9.6	7
Richest	13.5	15

Richer teams were coated by a large variety of insurance schemes, whereas poorer teams were solely coated by the CHF/TIKA

In addition to increasing the employment of services among its members, insurance additionally affects wherever individuals visit request patient care. Insured people are typically less possible to hunt care at drug retailers than the uninsured. However, there are variations across insurance schemes as portrayed by the survey that is:

- i. CHF members were more likely to use public primary health facilities and less likely to go to faith-based health providers than the uninsured in rural areas.
- ii. NHIF members in urban areas (NHIF U) were more likely to use private providers and public hospitals, whereas those in rural areas (NHIF R) were more likely to go to public primary and faith-based facilities.
- iii. SHIB and private insurance scheme members were more likely to use private providers.

It is regarded that after the introduction of health insurance and its development, wealthier groups working in the formal sector are more likely developed or benefited than the poorer groups (slum dwellers). The diversity of schemes interms of

contribution rates and benefits offered resulted in the effect of insurance as being inconsistent, both in terms of the amount and nature of services received by members. What is clear is that insurance is generally increasing the intensity of outpatient care use and also influencing where people go for such care, diverting people from drug shops to formal care. CHF members are more likely to use public primary care than their non-insured rural and slum counterparts, consistent with their benefits package. Despite equal contributions, NHIF members in urban areas use a much wider range of outpatient care than those in rural areas. (IFI, 2012)

2.2.2 Financial Protection of Health Insurance.

Health systems aren't almost about health. sensible ones additionally make sure that folks are shielded from the monetary consequences of unhealthiness and death or a minimum of from the monetary consequences related to the employment of treatment (health insurance). The world bank 50-country democratic economic condition study called "Voices of the poor" found that poor health and unhealthiness are universally horrific as a supply of impoverishment, partially thanks to the prices of health care however additionally the financial gain lost due to unhealthiness. Voices of the poor documents a case of a 30- year-old Indian mother of 4, who has been forced to sell the family's home and land, and must walk ten kilometers daily transporting wood on her head so as to finance the value of her diabetic husband's treatment. (Wagstaff, 2008)

The measures of economic protection developed to this point are supported people out of pocket payment on treatment and relate out of pocket payments to a threshold. Regarded that a household that should pay on treatment decreases resources on the purchasing of other different merchandise and services. One approach is to classify the payments as 'catastrophic' if it exceeds a precise fraction of household financial gain. Another is to classify it as 'impoverishing' if it's sufficiently giant to create the distinction to the household being higher than the personal income and below it, a rustic wherever individuals pay very little (and that so appearance sensible from a money protection perspective) is also one where people don't use health services. (Wagstaff, 2008)

In a health system assessment, a rustic may act on monetary protection however poorly on health outcomes and health inequalities; the explanation could also be that its policies on due payments discourage the general public from using health services but that the health services people do use are top quality and applicable. Another country may do poorly on monetary protection and poorly on health outcomes and inequalities; the explanation may be that individuals use services despite the high value at the purpose of use however the care is poor quality or inappropriate to people's wants. this instance brings home the vital purpose that performance on monetary protection depends not simply on policies with relation to health finance narrowly outlined however conjointly (among different things) on the approach suppliers are paid and controlled. (Wagstaff, 2008)

Financial protection is at the core of universal health coverage and one in each of the final word coverage goals. Health finance policy directly affects cash protection. cash protection is achieved once direct payments created to induce health services don't expose people to monetary hardship and don't threaten living standards.

Out of pocket payments for health can cause households to incur ruinous expenditures that in turn will push them into poorness. Key to protecting people is to form certain mercantilism and pooling of resources for health rather than relying on individuals paying for health services out of pocket at the time of use.

2.2.3 Slum areas.

Appearance:indicated as a universal mark of a slum, its side of neglect and disorder with reference to buildings and streets, the look is one among structural over-age and decline

Economic status: .usually inhabited by individuals of very cheap financial gain, though there is also occasional buildings of equally run-down appearances peopled by families that aren't thus poor. Thought of an impoverishment space

Over-crowding:It is usually found that space is overcrowded with buildings or the buildings may be overcrowded with people. If the slum is 'retreating' therefore many

buildings may have declined and are unsafe for habitation, but there then be overcrowding in the buildings still occupied.

Population: In a slum of heterogeneous occupancy, several of the inhabitants there are those that cannot afford to measure elsewhere so it's going to be a refuge space for the aged, the inveterately sick, the homeless, and therefore the socially maladjusted. However such 'odds and ends' might not be welcome even in some slums wherever a 'Sense of community' exists.

Environmental sanitation: many slum areas are characterized with poor sanitation, the slum is often most neglected by the public services especially in sanitation, thus contributing to being a place of the high rate of sickness.

These characteristics features of slums give into focus the fact that slums are basically a place where deprivation level of human beings is very high. Reasons such as population growth, migration, concentration of economic activities, government policy measures. Contribute to the rise of slums in various parts of a nation.

2.3 Out-of-pocket payments.

Direct payments to a healthcare supplier also known as out of pocket payments, involve also. User fees paid on to public health facilities which are a mode of out of pocket payment, this includes also co-payments created by members of an insurance theme. Many African nations tend to experience a high harmful health expenditure. The United Republic of Tanzania has a current old population (60 years and above) of 1.5 million that's projected to expand by 2025 to 3 million. A great share of G.D.P (7.2%) on health, with a marginal public expenditure of 39% of the entire health prices. (Enemark, 2014)

The use of essential health services is reported to be avoided by the poor individuals with increasing demand for (OOP). Health expenditures are regarded harmful after they exceed 40% of the households effective financial gain as the data concerning the determinants of OOP expenditure on health is significant from a health policy perspective. The studies on determinants of OOP health expenditure in various LMIC's are centered on adult population. In most low and middle income countries

(LMIC), out of pocket health expenditure accounts for 20% to 60% of National Health Expenditure whereas, in most developed economies, this amount accounts for under 15% to 25%. (WHO, 2010).

2.3.1 Measuring Impoverishing Effect of Out-of-Pocket Health Payments

In 2015 the World Bank released a report that showed that the speed of individuals that stood impoverished thanks to out of pocket payments for health care stood at two. It indicated that the impoverishment state of affairs was worse among the those who couldn't access the paid health services, particularly in nations that have invested with atiny low share of their national take into account health. OOP health payments shouldn't cause households that are higher than the poverty level into financial difficulty and those below the poverty line deeper into poverty. (Khan et al., 2010)

2.4 Theoretical Literature Review.

Theoretical Framework: in this framework, we will be discussing the different theories that correlate out of pocket expenditure as well as the demand for health insurance.

2.4.1 Human Capital Model on Demand for Health.

Grossmans theory has been incorporated as the human capital model as it draws its basics from the human capital theory of [Becker (1964, 1967), Ben-Porath (1967), Mincer (1974)], whereby increases in a person's stock of knowledge or human capital raises his/her productivity in the market sector of the economy, where he produces money earnings, and in the non-market or household sector where he produces commodities that enter his utility function.

(Mushkin (1962), Becker (1964), and Fuchs (1966)) pointed out that health capital as one component of the stock of human capital, Grossman was the first person to construct a model of the demand for health capital itself, the principle argued that health capital differed from other forms of human capital, In particular that a person's stock of knowledge affects his market and non-market productivity, while his stock of health determines the total amount of time he can spend producing

money earnings and commodities. Grossmans model incorporated health broadly to include the longevity and illness free days in a given year whereby it is both demanded and produced by consumers. As he said Health is a choice variable because it is a source of utility (satisfaction) and because it determines income or wealth levels. That is for two reasons health is demanded by consumers as a consumption commodity that is it directly enters their preference functions that is everyone wants to be healthy at all times also as an investment commodity, as it determines the total amount of time available for market and non-market activities where the monetary value of this reduction is an index of the return to an investment in health.

Since the most fundamental law in economics is the law of the downward sloping demand function, the quantity of the health demanded should be negatively correlated with its “shadow price”. Grossman stressed that the shadow price of health depends on many variables besides the price of medical care, shifts in the variables alter the optimal amount of health, the derived demand for gross investment and for health inputs. He showed that the shadow price of health rises with age that is the rate of depreciation on the stock of health rises over the life cycle and falls with education, he also emphasized that under certain conditions an increase in the shadow price may simultaneously reduce the quantity of health demanded and increase the quantities of health inputs demanded.

Through a series of equations considering his assumptions such as the intertemporal utility function of a typical consumer to be

$$U = U (f_t H_t, Z_t), t = 0, 1, \dots, n, \dots \dots \dots (1)$$

where H_t is the stock of health at age t or in time period t , f_t is the service flow per unit stock, $h_t = f_t H_t$ is total consumption of “health services,” and Z_t is consumption of another commodity.

The stock of health in the initial period (H_0) is given, but the stock of health at any other age is endogenous. The length of life as of the planning date (n) also is endogenous. In particular, death takes place when $H_t \leq H_{min}$. Therefore, length of life is determined by the quantities of health capital that maximize utility subject to

production and resource constraints. By definition, net investment in the stock of health equals gross investment minus depreciation:

$$H_{t+1} - H_t = I_t - d_t H_t, \dots \dots \dots (2)$$

where I_t is gross investment and d_t is the rate of depreciation during the t th period ($0 < d_t < 1$). The rates of depreciation are exogenous but depend on age. Consumers produce gross investment in health and the other commodities in the utility function according to a set of household production functions:

$$I_t = I_t (M_t, T H_t; E) \dots \dots \dots (3)$$

$$Z_t = Z_t (X_t, T_t; E) \dots \dots \dots (4)$$

In these equations M_t is a vector of inputs (goods) purchased in the market that contribute to gross investment in health, X_t is a similar vector of goods inputs that contribute to the production of Z_t , $T H_t$ and T_t are time inputs, and E is the consumer's stock of knowledge or human capital exclusive of health capital. This latter stock is assumed to be exogenous or predetermined. The semicolon before it highlights the difference between this variable and the endogenous goods and time inputs. In effect, Grossman sought to examine the consumer's behavior after he has acquired the optimal stock of this capital.

Also by considering equation 3 where he assumed that the prices of given health inputs do not change, thus individuals allocate a large part of their income (Investment decision) into I thus many individuals are willing to purchase health insurance so as to achieve a better security to their health this is in any age or gender of a person.

Following his fellows [Michael and Becker (1973)], he assumed that an increase in knowledge capital raises the efficiency of the production process in the nonmarket or household sector, just as an increase in technology raises the efficiency of the production process in the market sector. he also assumed that all production functions are linear homogenous in the endogenous market goods and own time inputs.

2.4.2 Expected Utility Theory.

At first, the speculation of the demand for insurance has been supported the expected utility theory associate degree Associate in Nursing assumed preference positive losses over unsure ones of identical expected magnitude is what influences demand for insurance. Newhouse (1978) understood the expected utility theory as “The purpose of Associate in Nursing insurance is to convert an unsure, but in all probability large, loss into a selected, small loss. Such a conversion edges the client if larger losses cause additional and larger declines in utility (that is if there's decreasing utility of wealth)”

When the insurance different is expressed as associate expected gain in utility, the choice to urge insurance becomes similar to the selection in any traditional economic transaction: a merchandise is purchased as a results of the utility gained from a trade goods exceeds its worth in terms the utility bygone from the other goods and services that might are purchased. throughout this case, the products purchased are additional gain throughout a pre-specified state (e.g., when ill), and thus the utility gain is associate expected utility. except that, it's a standard quid-pro-quo act. once shoppers purchase any merchandise, they provide up gain that might are accustomed to purchase completely different product and services. throughout this case, these completely different product and services are generally given up in one state (illness), and generally in another (health).

In this case, these totally different product and services are usually given up in one state (illness), and usually in another (health). But again, this will be like each totally different purchase created where there's uncertainty regarding the consumer's future (health) state. the choice to induce insurance desires that these totally different product and services run up therefore on purchase insurance that has an expected utility gain associated with it.

This insurance is purchased because the expected utility gain from the payoff exceeds the expected utility loss of the dollars that could have been spent on other consumption. Thus the implied timing of insurance due to someone's illness is what determines its valuation that is, if consumers buy insurance in order to receive an

uncertain gain in income, then insurance does not present a choice between certainty and uncertainty because there is the uncertainty both with and in without insurance, however it is not the certainty or the avoidance of risk that causes the purchase of health insurance, rather it is the fact that the uncertain pay-off is timed to coincide with the uncertain illness that determines the financial protection of an individual as ensures the availability of the expected funds that are required on the price of the service thus determining/making the worthiness in purchasing insurance.

2.5. Empirical Literature Review.

McIntyre (2017) who studied Obamacare's potential to reduce crime rate, it has led to evidence emerging of a causal-effect relationship was Obamacare's medical expansion was looked at in terms of impacts on crime-rates before and after venture, incidents of reported violent crimes decreased by 5% per 100,000 people, in Medicaid expansion states compared to non-expansion states. Incidents of property crime decreased by 3%, while at the county level they saw bigger coverage gains saw bigger crime reduction that is a 1% gain in coverage correlated with a 0.7% drop in violent crime. Thus showing that people who commit crimes tend to be either outright uninsured or have barriers to insurance (Scott, 2017)

Carter (2016) Who studied the degree and Determinants of out of pocket health expenditure in Congo, Liberia, Namibia, Rwanda, who by mistreatment across the nation representative knowledge from the Demographic and Health Surveys of the various nations specializing inpatient and inmate care among the unit members, were there was a use of Anderson and Newman's model in crucial instructive variables at the various unit levels that will have an effect on the employment of health care services and out of pocket defrayment. The study found that health care expenditure varies in addition with the type of provider, like in Kasulu country were delivery at a government facility was cheaper than at a mission facility, as a result of higher out of pocket expenditures on consultation, medication and medical specialty at mission facilities. Higher if quite one provider of care was used, and average direct costs were higher for that pattern personal versus public health facilities

Okello (2015) who studied and created analysis in various nations, at intervals the connection between insurance and out of pocket health commerce variation. A study in DRC and Rwanda where sum of money was associated with lower out of pocket expenditure for every patient and patient care services, whereas in Republic of Liberia and Namibia it had been associated with higher out of pocket payments it absolutely was regarded because of the use of Mutual insurance theme in Rwanda 95% who are insured use it that provided cash risk protection and significantly reduced the incidence of ruinous health expenditure.

Open Capital Advisors (2012) who reportable on a title of the “the next 33 million”, that studied the shortage of sum of money among Kenyans. Were by in Kenya 33 million lack any kind of sum of money, this has been primarily attributed to the razor skinny gain levels that causes many laid-off and freelance folks to possess the defect to accumulate NHIF in Kenya. In Kenya, there exists an uninsured and under-insured Kenyan middle numbering 10 million out of an estimated 18 million middle class who cannot afford current private insurance product with the common premiums on non-public insurance covers estimated at 33% of average annual incomes. In accordance with Danu (2009) who studied the unsustainable price of health care that established that rising financial gain lands up in higher commercialism on health care as a result of treatment could also be a desired service. As folks become at an advantage financially, commercialism on extending the life and rising health and well-being becomes extra participating than defrayment on totally different merchandise.

Ebaidalla (2017) studied the determinants of out of pocket health expenditures and the factors that associated with the risk of catastrophic health expenditure in Sudan. The researcher used the National Baseline Household Survey data of 2009 for the national, urban and rural levels of the population, the researcher wanted to increase the insight of findings so bringing the use of different income groups. The findings showed that the factors such as household income, incidence of disease, education, household size, number of household members over 65 and below 5 years are the most important factors affecting health expenditures. Also the researcher’s result tend to reveal that a household with catastrophic health expenditure tends to reduce

its budget share to education, food and other items results indicating that the empirical results of health expenditure pushes households into poverty.

Dorjdagva (2016), incorporated the social health insurance as being relatively high in Mongolia, whereby a policy concern indicated by the escalation of out of pocket payments for healthcare, which reached 41% of the total health expenditure in 2011. The researcher thus measures the rate of impoverishment from healthcare payments under the social health insurance scheme as well as analysed the incidence of catastrophic health expenditures. The methodology used involved the use of the data of the Household Socio-Economic Survey 2012, where for an estimate of impoverishment effect, the national and world bank poverty lines were used. The findings involved 5.5% of total household suffered from catastrophic health expenditures, when the threshold is 10% of the total household expenditure. At the threshold of 40% of capacity to pay, 1.1% of the total household incurred catastrophic health expenditures. About 20,000 people were forced into poverty due to paying for healthcare. Despite the high coverage of social health insurance, a significant proportion of the population incurred catastrophic health expenditures and was forced into poverty due to out of pocket payments for health care.

Wagstaff (2018), based his research on Universal Health Coverage which was to be incorporated universally, whereby the goal was that families who get needed healthcare do not suffer financial hardship. The researcher was in belief that when households consumption including out of pocket spending, is less than the poverty line. This linked the UHC directly to the policy goal of reducing poverty, the researcher measured the incidence and depth of impoverishment as the difference in the poverty head count and poverty gap with and without out of pocket spending included in household total consumption, 3 poverty lines were used of US\$1.90 PER DAY, US\$3.10 and a relative poverty line of 50% of median consumption per capita. 122 countries were estimated in terms of impoverishment using 516 surveys between 1984 and 2015. The findings involved impoverishment due to out of pocket spending even in countries where the entire population was covered by health insurance scheme or by national or subnational health services. Across nations, the population weighted median annual rate of change of impoverishment was at negative in

US\$1.90 per day poverty line, but positive in the US\$ 3.10 per day and relative poverty lines. The research showed that in all nations OOP spending can be both catastrophic and impoverishing at all income levels but in relation of the poverty line. Also the researcher showed proposal of increasing the share of total health expenditure that is prepaid, especially through taxes and mandatory contributions, can help reduce impoverishment.

Unicef (2018) studied the Tanzanian health budget brief whereby the study aimed at looking at the Health spending trend, budget credibility and execution, decentralization and health spending, as well as equity on health spending the study looked at the National Health Insurance Fund (NHIF) which was originally established to provide compulsory health insurance for central government employees. Recently, private companies and individuals have been able to opt in to the NHIF. As of 2018, the NHIF covered 7% of the population. Direct transfers to the NHIF from the government of Tanzania are estimated to account for 10% of the health sector budget in Fiscal Year 2017/2018. The organisation also studied Community Health Fund where it has been involved through the NHIF coordinators. Coverage under the 25% of the population. This is an impressive increase from 2011, when only 7.9 % of the population were covered. The researcher believed that the health outcomes in Tanzania are impacted by the burden of HIV and AIDS, malaria and tuberculosis and other chronic illnesses which account for 11%, 4% and 4% respectively of total death.

Nundoochan (2019) examined trends in OOP in Mauritius, to assess its impacts through an analysis of key indicators of financial protection, namely catastrophic health expenditure and impoverishment due to OOP health expenditure it also aimed to predict core determinations of CHE, the researchers explained Private health Expenditure which they considered predominately OOP with only 3.4% related to premiums for private insurance. In 2014, Household OOP expenditures on health accounted for 52.8% of total health expenditure. The methodology used involved the Household Budget Surveys of 2001/02, 2006/07, and 2012 as data, CHE and impoverishment were used to assess financial hardships resulting from OOP health payments, The incidence of CHE was estimated at three threshold levels (10, 25 and

40%), using the budget share and the capacity to pay approaches. Impoverishment due to OOP was measured by changes in the incidence of poverty and intensity of poverty using the US\$ 3.1 international poverty line. Whereby the Logistic regression analysis was used to identify determinants of CHE. The study found out that the Household CHE increased from 5.78% in 2001/02 to 8.85% in 2012 and 0.61% in 2001/02 to 1.25% in 2012, the incidence of CHE was significantly higher in urban areas compared to rural areas. The share of households pushed below the poverty line due to OOP dropped from 0.4% in 2002/02 to 0.2% in 2006/07 before rising to 0.34% in 2012. Logistic regression analysis revealed that the odds ratio of facing CHE were significant only among households with dependants in the household. The study showed that despite the rise in incidence of CHE between 2001 and 2012 the impact of OOP on the level of impoverishment and poverty gap has not been significant

Khan (2017) based his research on the sustainable development goals target to achieve Universal Health Coverage. There are four indicators of financial risk protection, namely incidence of catastrophic health expenditure (CHE), mean positive catastrophic overshoot, incidence of impoverishment and increase in the depth of poverty occur for high out of pocket healthcare spending. It is considered that the OOP spending is the major payment strategy for healthcare in most low and middle income nations. The aim of the study involved the estimation of the impact of OOP spending on Catastrophic Health Expenditure and poverty in the nation of Bangladesh in South Asia, the methodology involved the household income and expenditure survey 2010 was used to determine household consumption expenditure and health related also where by the propensity of facing CHE for households was predicted by demographic and socio-economic characteristics. The poverty headcount was estimated using total household consumption expenditure and such expenditure without OOP payments for health in comparison with the poverty line measured by cost of basic need. The results showed that the 10% threshold level, in total 14.2% of households faced CHE with 1.9%, while 16.5% of the poorest and 9.2% of the richest households faced Catastrophic Health Expenditure. The study found an overall pro-poor distribution for CHE with Confidence Interval (-0.064) in

both urban and rural households while the former had higher CHE incidences. The poverty headcount increased by 3.5% showing that the reliance on OOP payments for healthcare in Bangladesh should be reduced for poverty alleviation in urban and rural Bangladesh in order to secure financial protection for universal health coverage.

Singh (2017) incorporated a study in India which involved slum dwellers whereby as it focused on the increasing level of urbanization from 27.81% in 2001 to 31.16% in 2011 from the census data. The report stated that the urban slums typically have lesser access to hygiene, sanitation and safe drinking water, with the increasing slum population as it is seen as an indication of worsening living conditions and increasing poverty in the nation's cities, in the view of SDG on improving the lives of slum dwellers, health of urban poor has emerged as a crucial development indicator which demands a synergistic approach in all the programme and services relating to the health of urban poor. The study aimed at analysing the source of health care facilities and insurance coverage of the urban poor. It also examined the reasons of under utilization of public health facilities by urban poor for their health in general and maternal, new born and child health related services. In terms of the methodology the data have been collected using a combination of qualitative and quantitative research methods in both slums as well as non-slum localities in the three cities.

The study advocates the actualization of two pronged strategies under universal health coverage, i.e., full spectrum of good quality essential health services and protection from impoverishment due to out of pocket expenditure which can be effectively achieved through universal and free comprehensive primary health care provided by the Government with publicly financed insurance schemes to pay for secondary and tertiary care services with private sector partnership to close the critical gaps. Clearly, these findings suggest widening coverage of health insurance, especially for urban poor through promoting public-private partnership with a provision of administrative quality control with vertical accountability. To effectively address this issue, health facilities should be organized and expanded irrespective of notified or non-notified slums with a humanitarian approach so that those living at outskirts of cities may have access to basic health facilities. All urban health posts should have a provision of mobile clinics to enhance the reach and

coverage of MNCH services among urban poor and ensuring equitable access to affordable health facilities. There is also a need to widen the coverage of RashtriyaSwasthyaBimaYojana (RSBY, 2007), a national state-sponsored health insurance scheme among urban poor in order to minimize their out of pocket expenses on health problem. Above all, suggestions should be considered on strengthening the existing healthcare services focusing on the affordability and availability of services.

Unicef (2018) The health sector in Tanzania was allocated 2.22 trillion in 2017/2018. This represents a 34% nominal increase on year 2016/2017, the health budget accounts for 7 % of the national budget and 1.8% of GDP. The largest increase to the health sector in FY 2017/2018 has been foreign-funded development spending which is estimated to increase by 127 per cent on the previous year. However, recurrent spending within the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) has reduced from 44 per cent in FY 2013/2014 to 30 per cent in FY 2017/2018. Over the past five years, donor contributions to the sector have fluctuated significantly. For instance, the share of donors in the development budget has declined from 92 per cent to 57 per cent between FY 2013/2014 and FY2017/2018. Health outcomes for the poor in Tanzania have been improving. However, child mortality, nutrition status, vaccination coverage and likelihood of attending a health facility to deliver a baby are still heavily determined by: location, wealth and mother's education. The Health Sector Strategic Plan IV (HSSP IV) equity focus is critical to ensure continued improvements in the health of vulnerable Tanzanians, including children. High population increase relatively to Government contributions to the health sector puts additional pressure on households to cover medical expenses. In 2014, out- of-pocket expenditures accounted for an estimated 23 per cent of total health expenditure. Both poor households and women have high out-of-pocket health costs, exacerbating inequality. With that understanding the Government through Health Policy of 2007 has introduced free health services to women and children. The Health Funding Strategy (HFS) holds scale-up and funding targets. Focusing on addressing emerging issues such as electronic payments, improvements in health contracting and merging the National Health Insurance Fund

(NHIF) and the Community Health Funds (CHFs) could lay the groundwork for the scale up of the health interventions coverage.

Wu Zheng (2018) Another study involved the nation of Zimbabwe where, the study aimed in examining the level of financial risk protection of the nation in terms of the health sector thus in establishing an effective, efficient and functional health system as part of the sustainable development goals, and the universal health coverage agendas. Many low and middle income nations have implemented health initiatives to improve access to basic health services for all. The methodology used involved a total of 7450 households were sampled for the household survey. All provinces are involved sample size for each province was proportional to the square root of the share of household in each province to the total number of household, a logit model was used to estimate the determinants of catastrophic health spending the dependent variable involved whether a household incurred CHE and the independent variables involved characteristics of household head (age, gender, education, employment and marriage, as well as household consumption). The results involved that total OOP was estimated at 343.7 million USD, equivalent to 24.90 USD per capita per year. As shown 73.59% of OOP expenditure was used for curative care and 9.91% was for long-term care. Expenditures on rehabilitative care, ancillary services, and medical goods were relatively low, accounting for 3.78%, 2.74%, and 1.77% of total OOP expenditure, respectively. About 88% of OOP expenditure was used for outpatient care and the remaining 12% was for inpatient care. Additionally, 1.29% of households fell into poverty due to health care-related expenditures. The study suggests that there are inequalities in utilization of health services among different population groups. The poor seeking inpatient care are the most vulnerable to CHE.

2.6. Conceptual Framework.

Figure 2.1 Conceptual Frame Work regarding Health Insurance Coverage inslumareas.

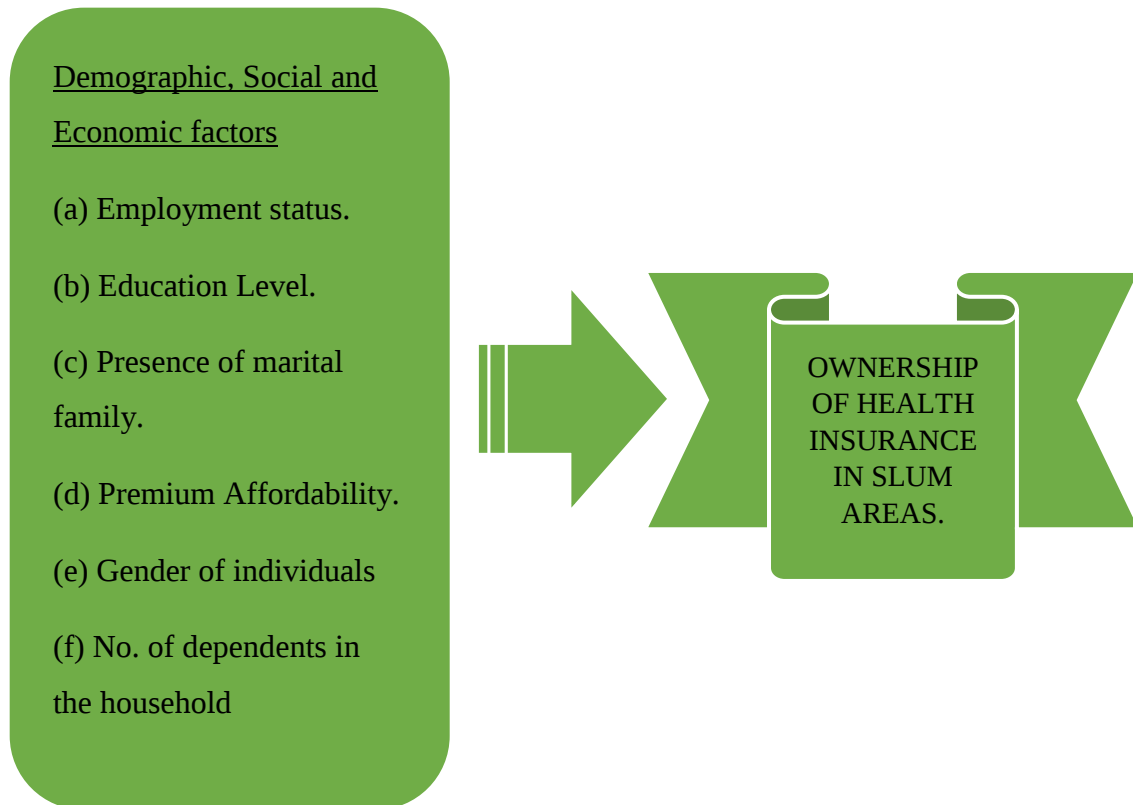
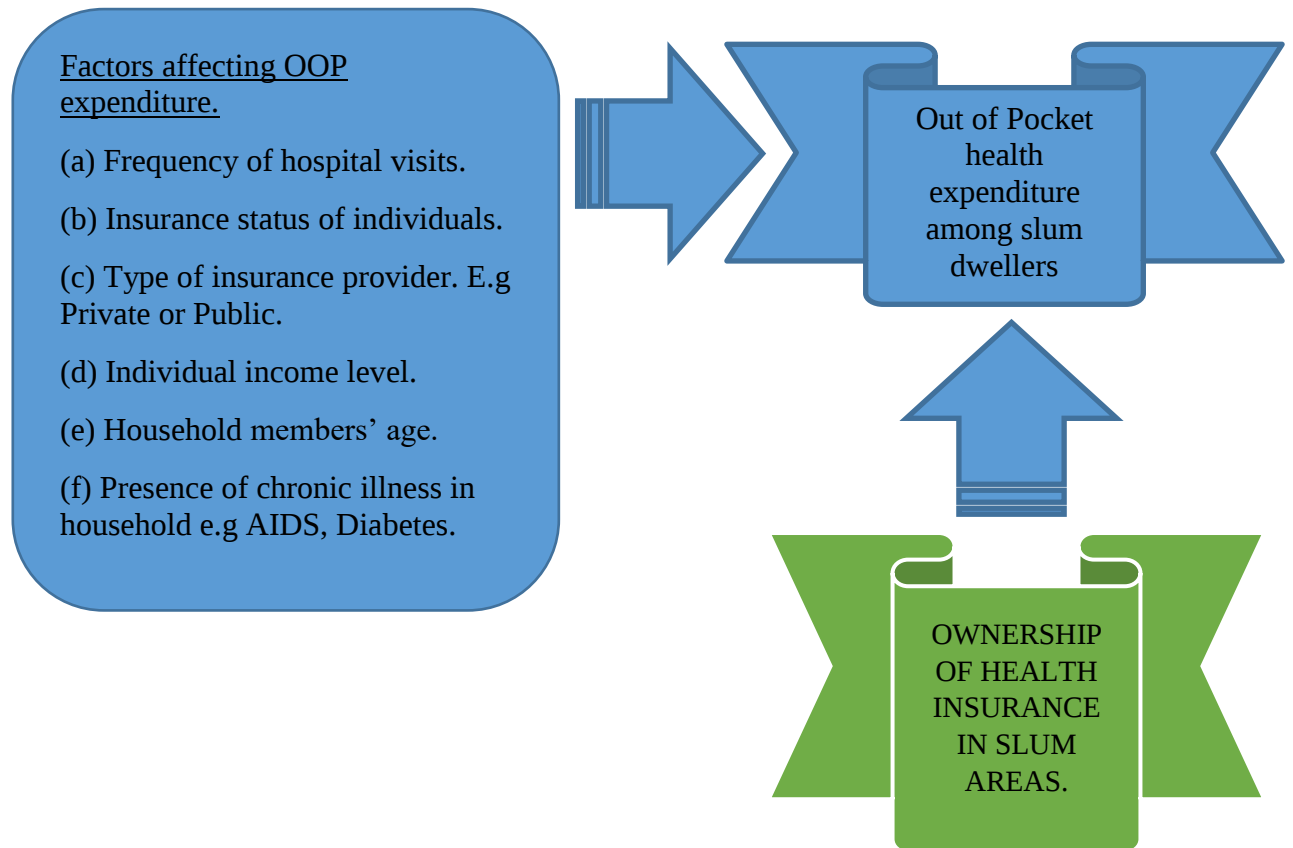


Figure 2.2 Conceptual Frame Work regarding Financial Protection of Health Insurance among slum dwellers in Tanzania throughout of pocket expenditure.



The above conceptual framework emanates the factors that are considered to affect the out of pocket expenditure of individuals thus without forgetting the ownership of insurance of an individual though this has been checked through the first model the researcher wanted to define the factor of ownership as it shows relaying relation to one's expenditure in the health sector. Where the model will be run through using of linear regression to determine the above factors.

CHAPTER THREE

METHODOLOGY OF THE RESEARCH

3.1 Introduction

Thus in terms of the study, it will involve the targeted population, the sample and sampling techniques to be used in the research design, the measurement of variables and the techniques for the analysis of the collected information.

3.2 Research design

To study the determinants of the analysis involving the coverage of insurance in Dar E Salaam region inside. A cross-sectional analysis style is used, specifically, the analysis is based mostly within the 3 municipalities of Ubungo, Kinondoni, and Ilala. Given the necessity of this study, the analysis style was acceptable for a fast assortment of knowledge because it isn't time intense.

3.3 Area of Study

Dar es Salaam is the former capital as well as the most populous city in Tanzania and a regionally important economic center. Until 1996 the status got transferred to Dodoma, The region has 5 districts, these include Kinondoni, Ilala, Temeke, Kigamboni, and Ubungo the region although had a population of 4,364,541. The study though involved three municipalities with Kinondoni – 1,775,049, Ilala – 1,220,611, Ubungo – 56,015 showing their respective populations. In addition Dar es Salaam is the most urbanized city in Tanzania consisting of a high slum population in relation to the spread of different insurance companies. The city of Dar es salaam is regarded as the 6th interms of Africa in the growing of slum population in the continent and thus considered one of the largest growth rates in Africa.

The case study has been chosen conjointly because of the actual fact that the United Republic of Tanzania with more than six million people living in the urban centers as well as the consideration of at least 92% of individuals living in Tanzania's urban centers are literally living in slum dwellings. The foremost common cause may be because of frequent government evictions that cause several people to be homeless and board impossible economic condition within the slums, this is often ordinarily caused by frequent government evictions that find yourself departure tens of thousands of individuals homeless and in impossible economic condition.

3.4 Population Targeted.

The target population of the research involved individuals residing in the slum areas of Dar es Salaam in different municipalities it also involved the possession of health insurance for these individuals who are considered economically in poverty as their living conditions are below standards in terms of sanitation, as well as access to basic services such as water, thus resulting of many of them being exposed easily to sickness as well as different infections. Thus the possession of health insurance in these communities will depict the extent of coverage of health insurance in these communities and the impact of out of pocket expenditure will depict the status /power of the health insurance to protect the individuals financially.

3.5 Techniques and size of the sample.

According to the world population review (2018) Tanzania's population has risen in 2018 from the official 44,928,923 people of the census data to 59,593,105 people in 2018. With the targeted population of Dar es Salaam of 2,698,652 people thus as regarded that 60% of the individuals in the economic hub of the nation live in slum areas thus

$\frac{60}{100} \times 2,698,652 = 1,619,192$ People live in slum areas in different part of the region.

The sample size involved slum population of Dar es Salaam Region. Also Orodho and Kombo, (2002), reports that selecting a number of individuals such that they contain a representative group with the whole groups' attributes that is known as

sampling. Thus in the preparation of the sample regarding the related study the researcher calculated the sample using Yamen, (1967), the formula for calculating sample size from the population targeted.

$$n = \frac{N}{1 + N(e)^2}$$

$$n = \frac{1619192}{1 + 1619192(0.05)^2}$$

$$n = \frac{1619192}{1 + 4048}$$

$$n = \frac{1619192}{4049} = 400$$

Thus the sample size to be selected is 400 respondents.

Details:

n = this represents the sample size to be selected

N = this represents the targeted population in which the researcher has identified as 1619192 in the Dar es Salaam Region.

e = this involves the sampling error percentage which the researcher has chosen as 5%, it is the range in which the true value of the population is estimated to be.

Also in choosing the sample to be employed in the study the scientist opted to use chance sampling techniques with the employment of straightforward sampling, the technique was chosen thanks to that the scientist had a clearly outlined sample of people that sleep in these slum areas involving those who have insurance, therefore, the areas of slums are visited by the researcher, which with the info collected the knowledge collected is accustomed generalize to the larger population of slum dwellers.

Table 3.1 a visual presentation of how much the questionnaires were distributed in different municipalities.

MUNICIPALITY	AMOUNT OF QUESTIONNAIRES
KINONDONI	180
ILALA	170
UBUNGO	50
TOTAL	400

3.6 Sources of Data.

The data collected on the study was collected using different research instruments, with the aim of collecting efficient and reliable data, the primary source of data with the respondents was through open-ended interviews as well as questionnaires distributed to the respondents, while the secondary data was collected using the internet and written articles concerning the phenomena.

Primary Data

The data was collected through.

(i) Questionnaires

The questionnaires distributed were according to the sample chosen by the researcher which was 400 respondents, the questionnaire instrument was chosen due to that it saves time, confidentiality is upheld, information of large sample is collected and over diverse areas. The questions contained in the questionnaire included both open and closed ended questions for respondents to provide their opinions and thoughts and those where they needed to choose pre-determined answers respectively. The information obtained aimed to explain the specific objectives thus in noting the extent of coverage of health insurance in slum areas, and also in determining the factors affecting financial protection of health insurance.

(ii) Interviews.

The study involved purposely to ensure every respondent are participating and necessary information is included. It was conducted to get in-depth view on the subjects of the study regarding the objectives the interviewer will use both Swahili and English language, record and transfer to necessary analysis programs.

3.7 Description of variables.

Table 3.2: How variable will be measured.

VARIABLE	MEASURED	TYPE
Health Insurance Coverage (Binary Variable).	1 – If Individual possessing/having Insurance. 0 – If Individual not possessing/having insurance.	NOMINAL
Educational Level	0 - None. (1 none, 0 others) 1 - Primary level (1 Primary, 0 Otherwise) 2 – Secondary level (1 Secondary, 0 Otherwise) 3 – Tertiary level (1 Tertiary, 0 Otherwise)	NOMINAL
Employment status	1 - If individual is employed. 0 - If individual is not employed.	NOMINAL
Marital Status	1 - If individual is married 0 - If individual is not married	NOMINAL
Premium Affordability	1 - If the premium is (Expensive). 0 - If the premium is (Cheap).	NOMINAL
Gender of Individual	1 – If the individual is Male 0 – If the individual is Female	NOMINAL
Number of dependents	number of dependents	DISCRETE

Source: Researchers own Drawing in 2018.

Table 3.3: How variable will be measured.

VARIABLE	MEASURED	TYPE
Out of pocket health expenditure among slum dwellers.	Out of pocket expenditure	DISCRETE
Income level status	Amount of Income	DISCRETE
Type of Insurance provider	1 If insurance provider is private. 0 If insurance provider is public.	NOMINAL
Insurance status	1 if individual is insured 0 if individual is not insured	NOMINAL
Frequency of hospital visits	number of times visiting the hospital per month	DISCRETE
Household members aged more than 60 and less than 5 years of age	Number of household members of this nature.	DISCRETE
Presence of individuals with chronic illnesses	Number of individuals with chronic illnesses.	DISCRETE
Ownership of health insurance	1 – If Individual possessing/having Insurance. 0 – If Individual not possessing/having insurance.	NOMINAL
Gender of Individual	1 – If the individual is Male 0 – If the individual is Female	NOMINAL
Educational Level	0 - None. (1 None, 0 Otherwise) 1 - Primary level (1 Primary, 0 Otherwise) 2 – Secondary level (1 Secondary, 0 Otherwise) 3 – Tertiary level (1 Tertiary, 0 Otherwise)	NOMINAL

Source: Researchers own Drawing 2018

3.8 Data Analysis:

In an analysis of the data, the nature of the data collected was both qualitative and quantitative thus both the analysis packages of Statistical Packages for Social Sciences (SPSS) and STATA was used in the analyzing of the data.

In objective one: to analyze the extent of insurance coverage among slum dwellers in unplanned settlement areas the results were presented in a descriptive manner using charts (pie charts), graphs, as well as cross-tabulations and other tables representing frequencies as well as percentages of the analyzed data.

3.8.1. Econometric models

The model of health insurance coverage among slum dwellers.

Probit model:

Thus $Y_i^* = \beta_0 + \beta_i X_i + \mu_i$

Here the Y_i^* is considered a latent variable, shifting to the β_0 which is considered a constant term and thus β_i represents the estimates of parameters with the X variables as the independent influencers, μ_i is considered the error term. (Gujarati, 2004)

$$\begin{aligned} \text{Healthinsurancecoverage} \\ = \beta_0 + \beta_1 \text{married} + \beta_2 \text{male} + \beta_3 \text{PrivateEmp} \\ + \beta_4 \text{PublicEmp} + \beta_5 \text{Cheap} + \beta_6 \text{Primary} + \beta_7 \text{Secondary} \\ + \beta_8 \text{Tertiary} + \beta_9 \text{NumberofDependents} \end{aligned}$$

Whereby:

β_0 = Constant term.

$\beta_1 - \beta_9$ = Coefficients.

Coverage (Y): (1- Owning Health insurance, 0 – otherwise)

Married (β_1): (1 – married, 0 – otherwise)

Male (β_2): (1 – Male, 0 – otherwise)

PrivateEmp (β_3): (1 – PrivateEmployment, 0 – otherwise)

PublicEmp (β_4): (1 – PublicEmployment, 0 – otherwise)

Cheap (β_5): (1 – Cheap, 0 – otherwise)

Primary (β_6): (1 – Primary, 0 – otherwise)

Secondary (β_7): (1 – Secondary, 0 – otherwise)

Tertiary (β_8): (1 – Tertiary, 0 – otherwise)

Numberofdependents (β_9): (number of dependents in the households)

Marginal Effect Model:

$$\frac{d(Coverage)}{dx} = \beta_1 + \beta_2 + \beta_3 + \beta_4 + \beta_5 + \beta_6 + \beta_7 + \beta_8 + \beta_9$$

Out of Pocket Payments, OLS Linear regression.

Thus the model of OOP on health services among slum dwellers. Involving the OLS linear regression and the 2 Stage Residual Inclusion regression.

The researcher has aimed in using, the regression models that contain OLS Linear regression, as well as 2 stage residual inclusion. As we can see in the second model were the “Out of pocket payments” are recorded in terms of continuous data and as we want to look at how health insurance influence out of pocket payments, we look at the reduction or increase of the out of pocket that an individual contributes towards health expenditure. (Gujarati, 2004)

$$O.P.P = \beta_0 + \beta_1 Own.Ins + \beta_2 Female + \beta_3 Primary + \beta_4 Secondary \\ + \beta_5 Tertiary + \beta_6 Presofchillness + \beta_7 LnInc$$

Whereby:

β_0 = Constant term.

β_1 to β_7 = coefficients.

Out of Pocket Payments (Y): (Amount of out of pocket payments in natural log).

Ownins (β_1): (1 – Ownership of Insurance, 0 – otherwise)

Female (β_2): (1 – Female, 0 – otherwise)

Primary (β_3): (1 – Primary, 0 – otherwise)

Secondary (β_4): (1 – Secondary, 0 – otherwise)

Tertiary (β_5): (1 – Tertiary, 0 – otherwise)

Presofchillness (β_6): (1 – Presence of chronic illness, 0 – otherwise)

Lninc (β_7): (Amount of household income in natural log)

3.9 Reliability & Validity.

Any sort of biasness will be avoided to ensure the information obtained is not based subjectively which will harm the validity of the final results and the study as a whole. Prior to the collection of data elements such as study areas, study variables as well as the nature and response of the respondents were all considered

3.10 Ethical Consideration

Wassenaar and Mamotte (2001) reported that codes are essential to guard participants in social analysis from hurt, whereas guaranteeing the correct of privacy moreover as adhering to the action of consent. Moral dilemmas are seeming to emerge throughout the assortment of information and publication of analysis findings. The codes of analysis ethics throughout knowledge assortment were adhered to. The scientist additionally saw it best to own permission from the native authorities (municipal offices of the areas of study), before endeavoring the analysis activity. Respondents were assured of the knowledge they provided was carefully used for the significance of the study.

CHAPTER FOUR

DISCUSSION AND FINDINGS

4.1 Introduction

Analysis through STATA, involving a sample of 400 individuals who were living in these slum areas. In the chapter the data aimed to answer the specific objective that involved: To analyse the extent of insurance coverage among slum dwellers, to analyze the factors affecting ownership of health insurance with regards to slum dwellers, to analyse the impact of health insurance on OOP among slum dwellers. This knowledge was collected through interviews and questionnaires and analyzed through the above-mentioned analysis techniques under the probit regression, OLS linear regression as well as 2RSI regression.

4.2 Descriptive Analysis

The study used individual information from field survey which involved slum areas, the data was collected through revisiting individuals by asking them different questions through questionnaires as well as through interviews so as to acquire the correct data. The sample of individuals expected was 400 individuals that were living in the slums of Kinondoni, Ubungo as well as Ilala.

The below table shows the extent of coverage of health insurance among slum dwellers in Dar es salaam and the descriptive analysis showing the relationship of the independent variables in relation to the dependent variable.

Table 4.1: Descriptive statistics on ownership with factors affecting the ownership of health insurance among slum dwellers.

Variable	Obs	Mean	Std. Dev.	Min	Max
SelfEmp	400	0.32	0.4670603	0	1
Secondary	400	0.4025	0.4910158	0	1
PublicEmp	400	0.2725	0.4458033	0	1
PrivateEmp	400	0.185	0.3887839	0	1
Primary	400	0.205	0.4042072	0	1
Ownins	400	0.405	0.4915068	0	1
None	400	0.125	0.3311331	0	1
Nodepsign	400	2.26	1.993071	0	6
Married	400	0.4025	0.4910158	0	1
Male	400	0.685	0.4650976	0	1
Expensive	400	0.57	0.4956958	0	1

The above table involves a statistical description of the factors influencing the ownership of health insurance among slum dwellers the factors involve (Ownership of insurance, Number of dependents, marital status, Sex, Premium affordability, employment status, education) these statistics involve those that were insured and those that were not insured also. And therefore the table shows the number of observation, mean, standard deviation as well as the minimum and maximum values. The different variables were calculated with their mean values as can be shown

interms of the mean number of dependents in each household was considered 2, 40% of individuals were seen to be married, 68.5% of individuals interviewed and questioned were males, 57% of individuals who considered most of the premiums to be expensive, interms of employment status it involved different categories which included (18.5% for private employment, 27.25% for public employment, 32% for self-employment, and the remaining for those that were unemployed that was considered as the base category in regression), also as we look at the educational status we consider their categories as well that included (20.5% only primary levels, 40.25% only secondary levels, 12.5% those that haven't attended formal education and the other percentage which was 26.75% that involved those that were in tertiary levels which were considered as the base category interms of regression.

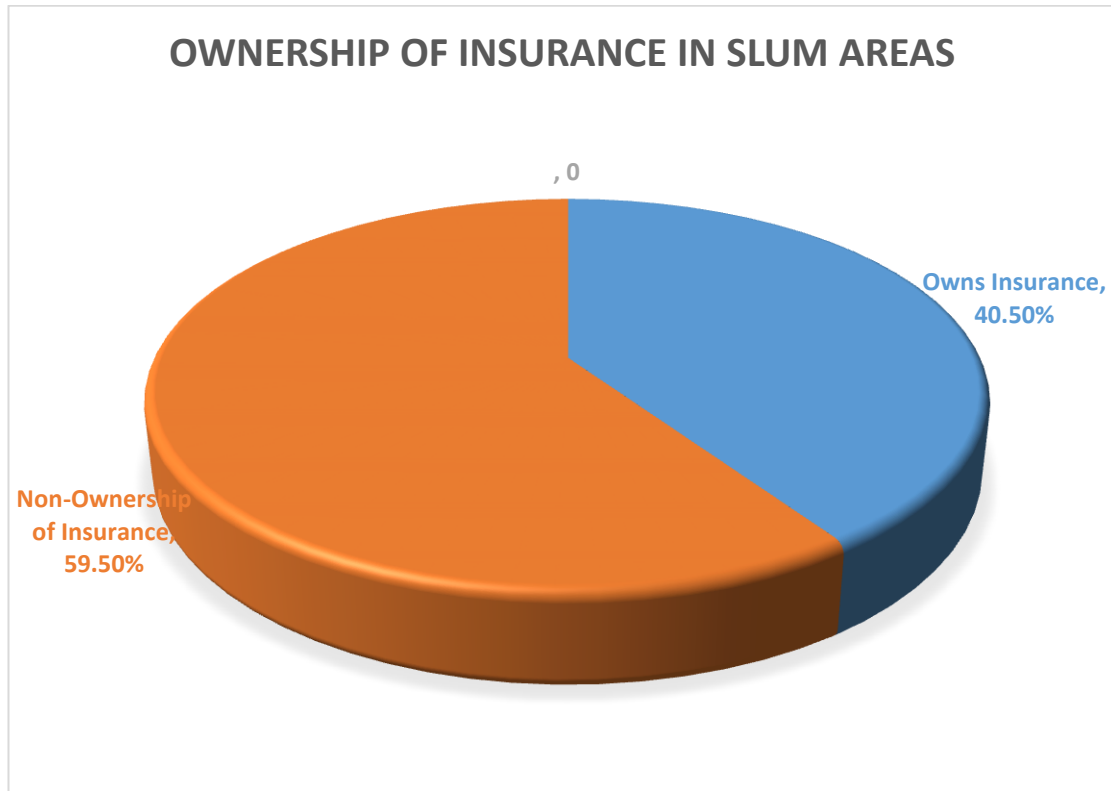
Table 4.2: Descriptive statistics on health insurance on out of pocket payments among slum dwellers.

Variable	Obs	Mean	Std. Dev.	Min	Max
Public	162	0.7716049	0.4211002	0	1
Private	162	0.2283951	0.4211002	0	1
Presence	162	0.1481481	0.3563483	0	1
Ownins	162	1	0	1	1
outofpocke~p	162	16160.49	13966.65	0	65000
NonPresence	162	0.8518519	0.3563483	0	1
incomeperm~h	162	187716	64848.36	80000	350000
freqofhosp~s	162	3.759259	1.711509	0	8
Age	162	33.25926	5.019905	24	46

The above table involves a statistical description of the factors influencing out of pocket payments among slum dwellers, it involves the factors that include (Out of pocket payments, frequency of hospital visits, ownership of health insurance, income per month, Age, type of insurance, Presence of chronic illness.). thus the table shows the different observations, the out of pocket payments show that the average amount provided is 16160 TZS aggregated as 16200TZS in terms of the different hospital services that individuals purchase in hospitals. In conjunction with this, we can see that the mean number of frequent visits to the hospital by individuals are 3 visits. As well as the income per month considered by many individuals during the collection of information was 187716 TZS, The most age that was found during the research process was 33 years. And the different frequencies that showed during the collection and analysis of data.

4.3 Objective One: To analyze the extent of insurance coverage among slum dwellers.

Figure 4.1 Ownership of Insurance in these slum Areas.



According to the chart above showing ownership of insurance in slum areas, the dominant individuals were those with no health insurance cards in which in number they were 238 were by in percent wise it was 59.5% and interms of those slum dwellers who had cards were 162 in number were by in thus showing the low percentage of health insurance possession interms of extent among the Dar es Salaam slum dwellers.

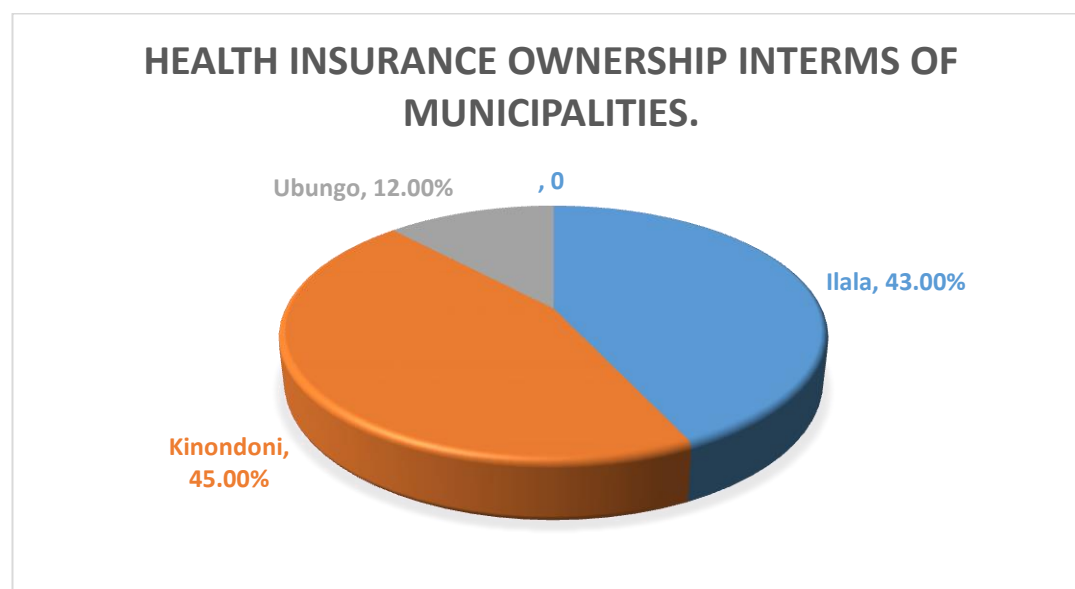
4.3.1 Count of health insurance owners among slum dwellers in unplanned settlement areas

Table 4.3 count of health insurance owners among slum dwellers that is on those who own health insurance in terms of regions/municipals.

Health insurance ownership interms of municipalities among slum dwellers in unplanned settlement areas.

Regions	Count.of.Regions
Ilala	69
Kinondoni	73
Ubungo	20

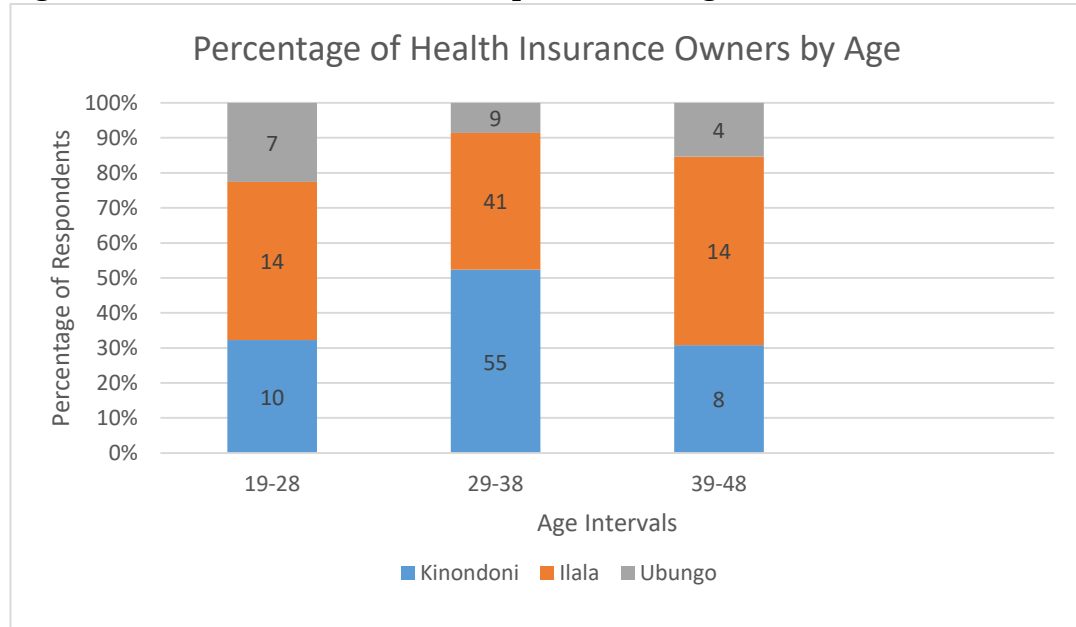
Figure 4.2 Ownership of health insurance interms of municipalities.



The above figure shows the count of health insurance owners interms of municipalities visited, which were Ilala, Kinondoni, as well as Ubungo, the data obtained interms of percentages was: 43%, 45%, as well as 12% respectively to the arranged municipalities. Showing Kinondoni having a large number/percent of individuals possessing health insurance thus investing in their health.

4.3.2 Health insurance owners by Age and municipalities.

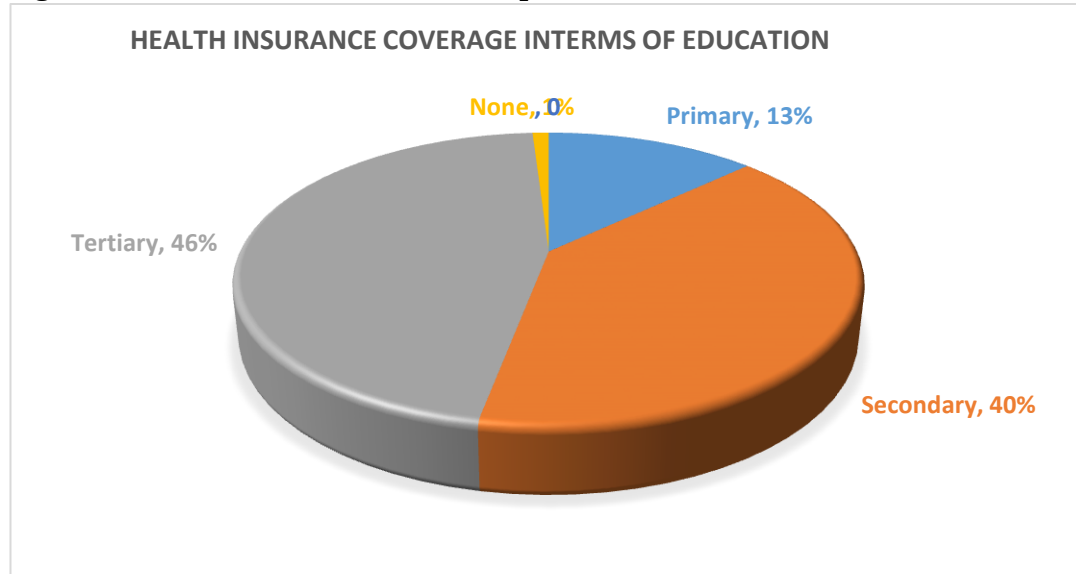
Figure 4.3 health insurance ownership interms of age.



Age by region involves the descriptive nature of the interviewed as that in the 3 municipalities that were passed through, the respondents interviewed were of different age difference thus there categorized were shown as follows and starting with the Kinondoni Municipality, with 180 individuals [19-28 = 60, 29- 38 = 103, 39 – 48 = 17, 49 – 58 = 0], in terms of the Ilala municipality with 170 individuals in slum areas we looked at [19 – 28 = 51, 29 – 38 = 82, 39 – 48 = 37, 49 – 58 = 0], thus we moved to the Ubungo municipality we have [19-28 = 9, 29- 38 = 38, 39 – 48 =3, 49 – 58 = 0] as we finished interms of the age of the individuals that provided information in the different areas of the municipalities, some were reluctant but others were open with the information regarding insurance.

4.3.3 Health insurance coverage interms of education.

Figure 4.4 Health insurance ownership interms of Education.

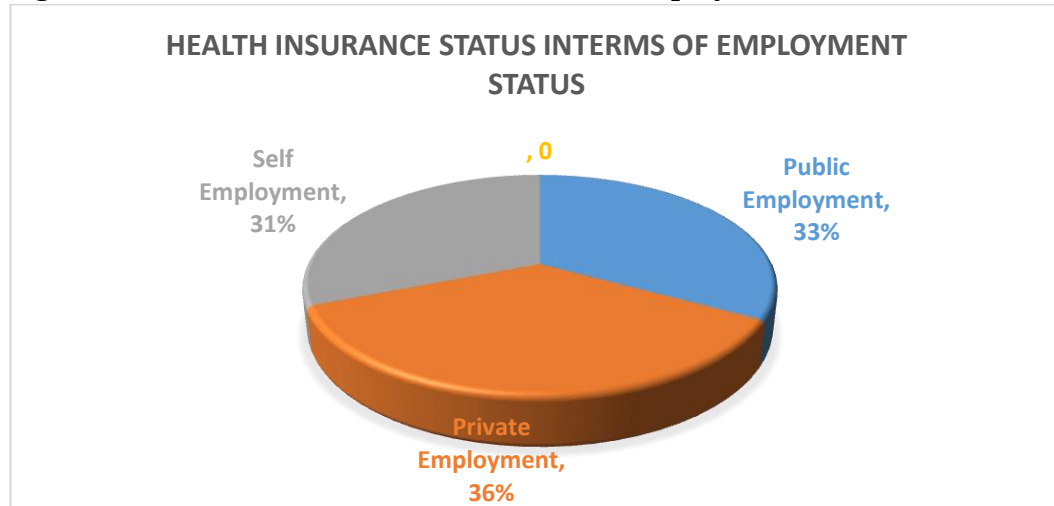


The above figure 4.4 shows the education by region of the collected information thus with categories of (Primary, Secondary, Tertiary, and None) the information was collected in different municipalities among slum dwellers living in those areas, these involved Kinondoni, Ilala and Ubungo, interms of percentages; 13% of the health insurance covered individuals were primary school graduates, 40% of the health insurance covered individuals were secondary school graduates, 46% of the health insurance covered individuals graduated to tertiary level, while only 1% didn't attend formal education.

Also in general those both with cards and without cards the municipality of Kinondoni had 180 individuals [37 – Primary, 72 – Secondary, 36 – Tertiary, 35 – None] as we categorized the Kinondoni municipality we go to the Ilala Municipality that contained 170 individuals in the slums that information was collected whereby [40 – Primary, 69 – Secondary, 54 – Tertiary, 7 – None] thus was depicted in the Ilala municipality. We look at the Ubungo Municipality also, whereby 50 individuals were interviewed and questioned whereby interms of education status it was categorized as [5 – Primary, 20 – Secondary, 17 – Tertiary, 8 – None].

4.3.4 Slum Health Insurance coverage by employment status.

Figure 4.5 Health insurance status interms of employment status.



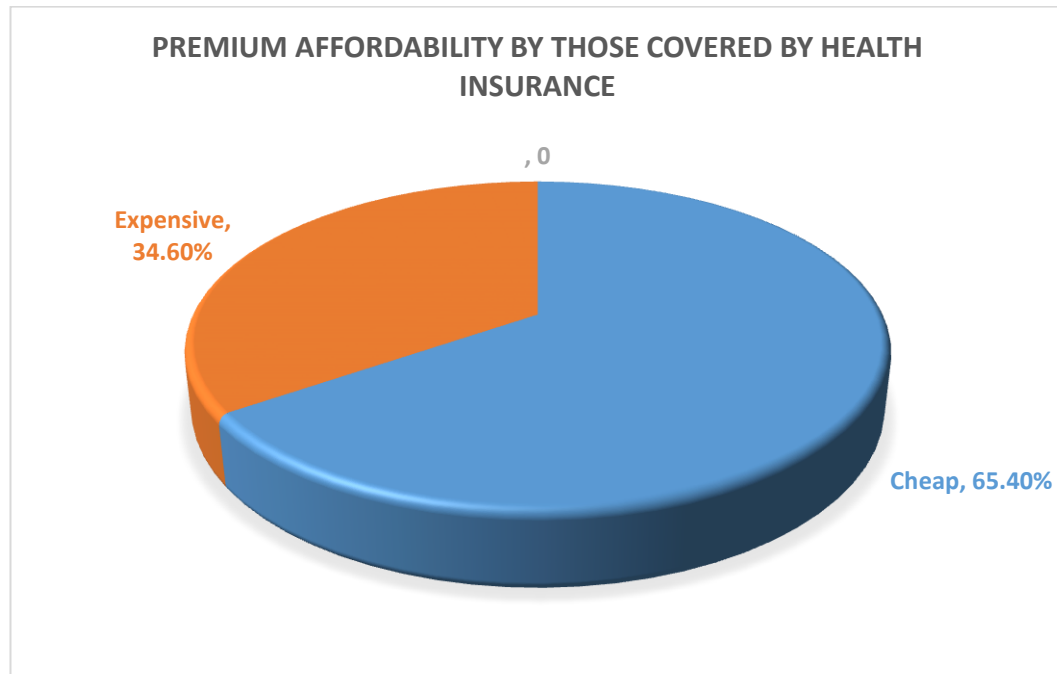
(Data Source Excel 2019)

The above figure 4.5 shows the employment status of the collected information thus with categories of (Public, Private, Self-employment,) the information involved those that were insured 0 in which in number it included 162 individuals thus in terms of the categorized groups we look at 36% for private employment, 33% for public employment, 31% for self-employment in Kinondoni, Ilala, and Ubungo,

In general as we collected data the municipality of Kinondoni had 180 individuals [61 – Public, 30 – Private, 58 – Self-employment, 31 – Unemployed] as we categorized the Kinondoni municipality we go to the Ilala Municipality that contained 170 individuals in the slums that information was collected whereby [38 – Public, 31 – Private, 57 – Self-employment, 44 – Unemployed] thus was depicted in the Ilala municipality. We look at the Ubungo Municipality also, whereby 50 individuals were interviewed and questioned whereby interms of employment status it was categorized as [7 – Public, 13 – Private, 15 – Self-employment, 15 – Unemployed].

4.3.5 Slum areas premium affordability by Regions.

Figure 4.6 Health insurance ownership interms of premium affordability.



(Data Source Excel 2019)

Interms of premium affordability as the chart shows in the above diagram, we look at the premium affordability status whereby most of the individuals in the collected data found that many of the health insurance premiums that they were registered with were Expensive, 34.6% of individuals were with this notion, while 65.4% of individuals were of the notion that the premiums that they were offered were not expensive that is 'cheap'.

4.4 Objective Two: To determine factors affecting ownership of health insurance among slum dwellers. The data acquired had to be analysed through probit regression due to the binomial nature of the dependent variable.

4.4.1 Probit Regression Analysis.

To obtain the estimates a probit regression was run and marginal effects calculated. As said before, the probit model was used given the character of the variable quantity being categorical. to urge precise result of the independent variables to the dependent variable marginal effect was calculated.

Table 4.4: Probit Regression Analysis of ownership of health insurance among slum dwellers.

	Probit regression				Number of obs =	400
					Wald chi2(9) =	138.68
					Prob > chi2 =	0.000
	Log pseudolikelihood = -173.85056				Pseudo R2 =	0.3561
VARIABLES	Coef.	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
Ownins						
Married	0.5003777	0.1962289	2.55	0.011	0.1157762	0.8849792
male	-1.225588	0.1794521	-6.83	0.000	-1.577308	-0.8738687
PrivateEmp	1.380711	0.2219221	6.22	0.000	0.9457513	1.81567
PublicEmp	0.7726011	0.1912627	4.04	0.000	0.3977332	1.147469
cheap	0.3146581	0.1745523	1.8	0.071	-0.0274582	0.6567744
Primary	0.6473042	0.3699531	1.75	0.08	-0.0777906	1.372399
Secondary	0.8068729	0.3548575	2.27	0.023	0.111365	1.502381
Tertiary	0.8501731	0.4119339	2.06	0.039	0.0427975	1.657549
nodepsign	0.1209845	0.0442407	2.73	0.006	0.0342743	0.2076946
_cons	-1.316881	0.3355152	-3.92	0	-1.974478	-0.6592828

(STATA, 2019)

The results of the probit model in the table above that show the regression of the different factors affecting ownership of health insurance among slum dwellers. The fitness of the data was statistically significant with (Prob >chi2 = 0.0000) that is the p-value being less than 1% also and if we look at the independent variables whereby the Z-values being above 2.00 we consider the factors influencing being significant. Also the (pseudo R2 = 0.3561) which shows that 35.61% is depicted by the independent variables. While the LR Chi2 (9) = 138.68 is the log of likelihood chisquare with nine degrees of freedom. The log of likelihood is -173.85056 implies that most of the parameters of the independent variables are zero.

Thus according to the above probability table 4.4, not all variables are significant as variables such as: A number of dependents, marital status (Married), Sex (Male), Employment status, Educational status and premium affordability showed to be significant. Thus since the probit model looks at the marginal effects in terms of interpretation we thus look at the Marginal effect results in the determining the influence of the factors on the ownership of health among slum dwellers that is from those with cards and those without cards.

4.4.2 Marginal Effect Analysis Result:

The expected change of the outcome variable with respect to the change of the independent variable is what we look to as the marginal effect, other covariates remaining constant. Since the coefficients of the probit regression can tell the direction of the effects but not the magnitude of the effect. Thus the marginal effect is computed to interpret the coefficients given both the magnitude and direction. Thus the marginal effect outputs are as seen below.

Table 4.5: Marginal Effects regarding the ownership of health insurance of individuals living in slum areas.

	Marginal effects after probit						
	y = Pr(ownins) (predict)						
	0.34626341						
variable	dy/dx	Std. Err.	Z	P>z	[95% C.I.]		X
Married*	.1862702	0.07299	2.55	0.011	0.043215	0.329326	0.4025
male***	-.4542572	0.06083	-7.47	0.000	0.573475	-0.33504	0.685
Private~p***	.5096909	0.06863	7.43	0.000	0.375177	0.644204	0.185
Public~p***	.293903	0.07206	4.08	0.000	0.152665	0.435141	0.2725
cheap**	.1166629	0.06477	1.8	0.072	0.010281	0.243606	0.43
Primary**	.248727	0.14211	1.75	0.08	0.029811	0.527265	0.205
Second~y*	.2988338	0.12662	2.36	0.018	0.050661	0.547006	0.4025
Tertiary*	.3232222	0.15277	2.12	0.034	0.023799	0.622645	0.2675
nodeps~n***	.044636	0.01617	2.76	0.006	0.012952	0.07632	2.26

(STATA, 2019)

Key:

*5% significance level.

**10% significance level.

***1% significance level.

In the assessment of the regression model, the variables influenced the dependent variable at different significant levels. Thus variables involved such as: (marital status, education levels, employment status, gender (male)& number of dependents) are seen to be significant enough to have influenced the dependent variable.

The coefficient of Premium affordability as expressed through its category of “cheap” as “expensiveness” was treated as the base category was found to be statistically significant at 10% with a value of 0.1167 with p-value (0.072) and thus influencing ownership of health insurance at 10% significant level. From the Marginal Effect in table 4.5 the probability of an individual owning health insurance

with premiums of insurance schemes that are cheap increases by 12% compared to if the schemes monthly premiums are expensive.

The coefficient of married was found to be statistically significant at 5% with a positive sign of 0.186 with p-value (0.011) and thus influencing ownership of health insurance at 5% significant level. From the Marginal Effects in table 4.5, This implies that as the individual enters into a marriage the probability of owning health insurance increases by 19% in comparison to the individual who is unmarried and is living in these slum dwellings.

The coefficient of sex was found to be statistically significant at 1%, which was negative of -0.4543 with p-value (0.000) thus through the marginal effect in table 4.5 this implies that as that the probability of an individual owning health insurance decreases by 45% if the individual is a male compared to being a female.

In Employment status, private and public employment status were considered as significant, at first looking at private employment with marginal effect which is positively influential that is 0.5097 with p-value (0.000) implying that slum dwellers probability of owning health insurance increases by 51% if the individual is employed in a private institution compared to if he/she is self-employed.

With regard to public employment with the marginal effect which is positively influential with 0.2939 with p-value (0.000) implying that a slum dwellers probability of owning health insurance changes by 29% interms of increasing if the individual is employed in a public institution compared to when he/she is self-employed.

The coefficient of the number of Dependents, were taken as significant at 1% level of significance and thus involved those who were dependent to the head of the household this involved, a non-working wife, children and those that considered the head as their supplier of basic needs, at first looking at the marginal effect which is positively influential that is 0.044636 with p-value (0.006) implying that in slum dwellers, the probability of an individual owning health insurance increases by 4.4% if there is a unit increase in the number of dependents other factors remaining constant.

4.4.3 Post-estimation test.

This section includes all the econometric tests conducted after estimation of the probit regression model to see whether or not the estimates will be meaningful given the results obtained.

Goodness of fit of the model.

Probit model for ownins, goodness-of-fit test	
Observations =	400
Covariate patterns =	168
Pearsons chi2 (158) =	202.72
probab chi2 =	0.0094

Model specification Test.

Gujarati (2004) argued that model specification is an important aspect in econometric analysis and must be a suitably specified. Notably, if it is not suitably specified the analysis result may encounter a specification error of the model. The model specification was estimated in the stata analysis and the results were as shown below. The study conducted this test using Link test command in Stata version 13. The Link test looks for specific errors known as link-error where the dependent variable links or relates to the independent variable.

Table 4.6: Link Test.

	Probit regression				No. of obs =	400
					LR chi(2) =	192.58
					Pr > chi2 =	0
	Loglikelihood= -173.7043				Pseu R2 =	0.3566
Variables						
ownins	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
_hat	0.9851544	0.093564	10.53	0	0.8017724	1.168536
_hatsq	-0.0457733	0.085224	-0.54	0.591	-0.2128092	0.1212626
_cons	0.0320606	0.098033	0.33	0.744	-0.1600806	0.2242018

(STATA, 2019)

It should be remembered that, H_0 : Model is well specified and H_a : is not well specified. Since the probability ($P>\{t\}$) of hatsq was 0.591 which was greater than 5% significance level, therefore the test t-test of the hatsq is insignificant. Then, this gives sufficient information to fail to reject H_0 and therefore the model is well specified. However, this result is good and does not suffer the model specification error.

4.5 Objective 3: Thus examining ownership of health insurance on out of pocket expenditure among slum dwellers.

4.5.1: Ordinalry Least Square Regression Analysis.

Thus the stata program through analysis using the linear regression command as the model was run interms of the OLS Linear regression and managed to acquire the following results as expressed in the following table.

Table 4.10: Out of pocket expenditure of individuals with health insurance in slumareas with residual inclusion.

					Number of obs = 294
					F(7, 286) = 27.14
					Prob > F = 0.0000
					R-squared = 0.3197
					Root MSE = .46273
		Robust			
Lnoop	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
ownins	-0.49708	0.062713	-7.93	0	-.6205171 -.373641
1.female	0.09172 3	0.059877	1.53	0.127	-.0261322 .2095772
primary	0.09306 6	0.120625	0.77	0.441	-.1443597 .3304921
secondary	0.00314 8	0.112802	0.03	0.978	-.2188795 .2251749
tertiary	-0.03363	0.12011	-0.28	0.78	-.2700379 .2027868
presofchrillness	0.61959 8	0.067664	9.16	0	.4864162 .7527804
Lninc	0.04398	0.007249	6.07	0	.0297125 .0582472
_cons	9.70899 6	0.089268	108.76	0	9.533291 9.884701
					Number of obs = 294
					F(8, 285) = 25.63
					Prob > F = 0.0000
					R-squared = 0.3464
					Root MSE = .45437
		robust			
Lnoop	coeff	StdError	t	P>t	[95% confinterv.]

ownins	-0.55028	0.063534	-8.66	0	-.6753396 -.4252298
res	0.86472 3	0.277253	3.12	0.002	.3189999 1.410446
1.female	-0.12024	0.091505	-1.31	0.19	-.3003474 .0598756
primary	0.01844 6	0.122551	0.15	0.88	-.2227733 .2596647
secondary	-0.1826	0.120915	-1.51	0.132	-.4205995 .055401
tertiary	-0.40661	0.156363	-2.6	0.01	-.7143878 -.0988419
presofchrillness	0.60922 8	0.067158	9.07	0	.477039 .741417
Lninc	0.01810 5	0.011625	1.56	0.12	-.004776 .0409867
_cons	9.88934 9	0.105531	93.71	0	9.681629 10.09707

Source: STATA OUTPUT (2019)

In the assessment of the regression model, not all 5 independent variables were found significant to depict the dependent variable, due to many different possible reasons, The variables that were found not significant to the model; these variable involved (Gender and educational levels) while variables such as: (Ownership of insurance, presence of chronic illness, Income level (LnIncome)) are seen to be significant enough to have influenced the dependent variable. The insignificant variables these may be due to the information given by respondents that have led to the current variables being insignificant.

4.5.2: Post estimation tests

Goodness of fit;

Interms of the goodness of fit in this model it is not applicable but in its substitute we use the R- Squared which is shown in the above table 4.10 which shows 0.3197 and thus interms of the R-squared it shows that 32% of the dependent variable is left to be explained by the independent variables while the error term in the model explains the other part.

CHAPTER FIVE

FINDINGS DISCUSSION

5.1 Overview

Thus comprehensive discussion is more emphasized on descriptive and empirical findings. The discussion is organized in regard to specific objectives, results from the cross-tabulation and the models that were involved.

5.2 To analyze the extent of insurance coverage among slum dwellers in unplanned settlement areas.

In accordance with objective one (f) the pie chart shows high number of people in these slum areas that are without insurance compared to those that are with insurance. In terms of numbers it is regarded that 238 individuals were found out not to have insurance schemes and 162 individuals were found out to have insurance schemes in all the regions (Kinondoni, Ilala, and Ubungo).

We came to graphs where we showed relations of the factors influencing coverage of insurance thus:

The cross-tabulations also showed correlation and significance of some categories others being strong while others being weak, in terms of the cross tabulations through Kendall's tau and the ASE, many of the variables that were to influence ownership of insurance among slum individuals seem to be statistically significant. Variables such as: Number of Dependents, Married (Marital Status), Male (Gender), Employment (Employment), premium affordability (cheapness) & Education level.

The aim of the graphical representations involving charts and graphs is to show the characterization of the individuals in which the information used has been obtained. Objective one (b) has shown the relationship of age by region and thus individuals with age category 29-38 years are the ones that were found much in slum areas, also objective one (c) has shown relationship of education by region showing that individuals in slum areas many of them have Secondary education in relation to the information obtained, also objective one (d) has shown relationship of slum employment status by region with a majority of individuals being subjected to being

self-employed in relation to those that are public/private employed or unemployed. Objective one (e) has shown a graphical representation of a pie chart showing that many individuals (238) have determined that owning insurance is expensive in relation to those who are (162) that think owning health insurance is cheap.

5.3 To determine factors affecting ownership of health insurance among slum dwellers.

This section tries to assess empirically the second specific objective in which involves the determination of factors affecting ownership of health insurance among slum dwellers, the section used a binary model this binary model was a probit model in which marginal effect was also calculated so as to identify the effect/changes of the following factors such as Number of dependents, marital status, employment status, education level, premium affordability (cheapness) and Sex. On ownership of health insurance of individuals in slum areas of Kinondoni, Ilala, and Ubungu.

The above-claimed factors can be regarded as socio-economic factors; thus

5.3.1 Socio-economic factors that affect ownership of health insurance among slum dwellers involve;

The empirical analysis using stata indicates:

The analysis indicated that Number of dependents, premium affordability, marital status, educational level, employment status as well as Sex were significantly affecting ownership of health insurance among slum dwellers. Therefore only significant factors were discussed, these factors involved;

Terms of premium affordability which we realize as regular payments to the insurance scheme so as to keep it in active state. According to table 4.5, premium affordability was meant as the status of the individual's package whether it is cheap or expensive though most of the individuals would prefer cheap to expensive.

The marginal effect of the stata output was expected as the result showed a positive response to the changes in the premiums, that is the more cheap the premiums the more health insurance coverage was taken by individuals at a 12% change that is the coefficient was 0.1167 with $p > |z| = 0.072$, thus showing a 10% significance level.

Thus the result goes hand in hand with the study that was researched in Kenya according to (OCA, 2012) where there existed an un-insured population whereby 10 million out of eighteen million class population who couldn't afford insurance product with average premiums on insurance covers calculated at 33% of average annual incomes.

Interms of marital status in which we have 2 categories which are Married and Unmarried, marital status interms of married as unmarried was treated as the base category was found to be statistically significant at 5% with a positive sign of 0.186 with p-value (0.01) and thus influencing ownership of health insurance at 5% significant level. The result of the regression was expected as it managed to concur with different studies, also according to (Pandey et al, 2019).

The methodology used in the study used crosssectional data, Probit regression, OLS linear regression as well as 2 stage residual inclusion. The study suggested that the model was relevant for analyzing this relationship as it was conceptually relevant. Also, different studies support the positive impact variable relationship due to married men tend to have a better health span than the unmarried interms of physically, mentally as well as reporting a good overall quality of life. Even according to the Human capital model we are sure that individuals don't only consume health but also produce health. Many studies support the relationship of marital status and health care such as cost faced by married couples tend to be much low compared to the unmarried also being married is predictive of better health status, perhaps attributable to more effective patterns of utilization, thus showing the significance of marital status on health care. (Pandey et al, 2019).

Interms of number of dependents whereby we consider the number of individuals that are dependent on the head of the household. It is expected that as the head of the household is with high number of dependents these dependents can be children, old age individuals or even spouses, then the probability of having ownership of health insurance tends to be high as we can see from the empirical analysis that was done, it is regarded that as we look at the marginal effect of 0.0446 also with (p-value) of 0.006 showing that the variable is significant at 1% with the variable showing a positive relationship with the dependent variable. Thus in interpretation is that the

probability of an individual as a slum dweller to have insurance coverage increases by 4.4% as a unit number of dependent in a household increases, being at the significant level of 1 %, the results

show that the upper the number of dependents in a very home a lot of the individual in these areas wish to have insurance.

Terms of employment status in slum areas, in this variable there were 4 categories in which self-employment was taken as the base category, while private and public employment status were considered as significant, at first looking at private employment with marginal effect which is positively influential that is 0.5097 with p-value (0.000) showing that slum dwellers probability of owning health insurance increases by 51% if the individual is employed in a private institution compared to if he/she is self-employed.

Also with public employment with the marginal effect which is positively influential with 0.2939 with p-value (0.000) showing that a slum dwellers probability of owning health insurance changes by 29% terms of increasing if the individual is employed in a public institution compared to when he/she is self-employed. Thus the above analysis leads to employment among slum dwellers leads to the realization of the importance of owning health insurance compared to if they are unemployed or self-employed, this can be due to (affordability of insurance, requirement of it by different institutions and others.)

Terms of Sex whereby we consider male and female. Thus with the 2 categories, female was taken as the base category and thus through the marginal effect which was negative of -0.4543 with p-value (0.000) showing that the variable was significant at 1%, thus terms of interpretation it is regarded as that an individual owning health insurance decreases by 45% if the individual is a male compared to being a female, showing that in the slum areas, males are not more susceptible to owning health insurance compared to females and that females show more reliance in owning health insurance.

As related to different studies that have impacted the realization of females being more susceptible to health insurance coverage different from males as females are built more in or have a nature of realizing health induced activities more intently as supported by a study of (DeCola, 2012) whereby this study expressed as an example, women in developed nations are further most likely to act in preventative health activities than are men. There together further most likely to hunt treatment for several diseases and to do and do this early inside the course of an illness. together women significantly in rising economies like those in Gold Coast and land, are shown to utilize health systems however men throughout their period of time because of restrictive barriers like kid care duties, caregiving obligations conjointly as service price.

5.4: Impact of health insurance on out of pocket expenditure among slum dwellers.

The objective as stated involved “ To analyze the effect of health insurance with emanating factors on out of pocket expenditure among slum dwellers”. The OLS linear regression method was used as it is commonly used with this model and the factors involved in the analysis of this were; type of insurance provider whether (Private or Public), Individual Income (natural log), the presence of chronic illness, Ownership of health insurance, Gender, Educational levels. These factors were taken to be analyzed to acquire their impact on influencing an increase or decrease in “Out of Pocket Payments” by these individuals in the slum areas of Kinondoni, Ilala as well as Ubungu.

5.4.1. Impact health insurance on out of pocket payment among slum dwellers;

The analysis indicated that ownership of health insurance, presence of chronic illness, income of individual (natural log) were significantly affecting out of pocket payments among slum dwellers in these researched areas. While factors such as; gender and educational levels were considered as insignificant to the dependent variable. Thus only the significant factors will be discussed.

Presence of chronic illness; in the analysis of out of pocket payments the variable of chronic illness was categorized according to presence and non-presence that is if

there is an individual with chronic illness or not in the such as (Diabetes, cancer, asthma, epilepsy, heart disease, Hiv/AIDS) whereby “ not having a chronic illness was considered as the reference category and thus in the implies; The unit increase of individuals with chronic illness increases the out of pocket payments of individuals living in slum areas by 61.95% of the mean average of out of pocket expenditure which was 16,160/= when faced with health difficulties, As it also includes residuals, it implies that a unit increase of individuals with chronic illness increases the out of pocket payments of individuals living in slum areas by 60.92% of the mean average of out of pocket expenditure which was 16,160/= when faced with health difficulties.

Compared with those that have no chronic illness either on themselves or their dependent, other factors remaining constant. The presence of chronic illness regards that as one has a chronic illness, his/her expenditure on health that is out of pocket expenditure increases due to more payments made on special care needed. This can be correlated with the expected utility theory which states that the choice to purchase insurance becomes rather like the choice in associatey traditional economic transaction; a commodity is purchased as a results of the utility gained from a trade goods exceeds its worth in terms the utility departed from the alternative goods and services that might are purchased. throughout this case, the whole purchased is additionally income in a pre-specified state (e.g., when ill), and thus the utility gain is expected utility. other than that, it's a regular quid-pro-quo human transaction. Once a consumer purchase any good, they relieve any income that might have been used of buying various merchandise and services. throughout this case, these various merchandise and services are typically given up in one state (illness), and customarily in another (health). Also, the study will correlate with a study in America wherever one in six American families experience high out of pocket health care defrayal particularly the disabled and old households. Ownership of health insurance; Also in the analysis of out of pocket payments the variable of ownership of health insurance was binary and thus was categorized according to having or not having health insurance as analysed before in the probit regression. Whereby not having health insurance was taken as the reference category thus implies; the unit

increase of an individual that possesses health insurance, decreases the out of pocket payments of individuals living in slum areas by 49% of the mean average of out of pocket expenditure which was 16,160/= when faced with health difficulties.

As it also includes the table with residuals, it implies that; a unit increase of an individual possessing health insurance, decreases the out of pocket payments of individuals living in slum areas by 55% of the mean average of out of pocket expenditure which was 16,160/= when faced with health difficulties. Compared with those that have no health insurance other factors remaining constant Such as Nyman (1999) stated that why do individuals purchase health insurance therefore in relation with the literature review it showed that it is with the help that it permits purchasers to avoid financial risk, most of the studies evaluate the impact of health insurance on financial protection as financial protection is mostly measured through out of pocket expenditure. Such as through the study of (Wagstaff and Yu, 2007) that revealed an impact of a project of the World Bank that had reduced both OOP and the incidence of catastrophic payments especially among the poor. Individuals income level; in the analysis of out of pocket payments the variable of individuals income was firstly considered as natural log and thus showed significance in its form, thus implies; A unit increase of an individuals income level increases the out of pocket payment of an individual living in slum areas by 4.4% of the mean average of out of pocket expenditure which was 16,160/= when faced with health difficulties, compared with those that have low income level other factors remaining constant. In relation to the study conducted by the World Health Organization that aimed at decreasing catastrophic health expenditure. WHO proposed that health expenditure be viewed as catastrophic wheever it exceeds 40% of household income that is the income available after basic needs have been met. The proposed Affordable Care Act brought about association with a reduced number of Americans who reported being unable to afford medical care, interms of methodology the study involved population based data from the medical expenditure panel survey from 2012-2015 whereby the multivariable regression was used to examine the changes in out of pocket spending, premium contributions and total health spending after the ACA's coverage expansion in 2014. The implementation of the policy (ACA) aimed at reducing OOP especially for the poor but many of the people still experience high OOP spending, but it is

regarded that substantial reversal of the ACA program would especially harm low income Americans. Showing that an increased base of income households face low out of pocket expenditure in relation to catastrophic expenditure facing low-level income earners when faced with health difficulties.

CHAPTER SIX

SUMMARY, CONCLUSION AND POLICY IMPLICATION

6.1. Introduction

The chapter touches on the findings and implications of the study as we also tend to realize areas of further research and limitations of the research.

6.2 Summary of the study

The study acquired data in 3 municipalities of Kinondoni, Ilala as well as Ubungo. 400 individuals participated in this research through interviews and questionnaires. Tabulations, empirical and descriptive analysis were used to analyze the following objectives; To analyse the extent of insurance coverage among slum dwellers in unplanned settlement areas, to determine factors affecting ownership of health insurance among slum, to examine effect of health insurance on out of pocket expenditure among slum dwellers.

The findings on the first objective, involved descriptive analysis on the cross-sectional data. The most common cause of individuals living in the slums involved frequent government evictions that cause many individuals to be homeless and live in unimaginable poverty in the slums. These sums up to quite a lot of people in the nation. Thus frequent government evictions tend to cause tens of thousands of individuals homeless and in inconceivable economic condition. Thus the study brought about many information and implications in the answering of the different objectives that were put forward in the earlier undertaking of the study.

The findings of the study revealed that the it aimed at analysing the factors that influenced ownership of health insurance among slum dwellers in Dar es Salaam, the study as discussed based its study in Kinondoni, Ilala and Ubungo and thus analysed factors involving; Employment status, Educational level, Premium affordability, Gender of individual, Marital status, as well as Number of dependents in a household. The study not only had one model but it also exposed the findings of another model which aimed at measuring the out of pocket expenditure of the individuals in the slum areas and the factors involved in this are: Frequency of

hospital visits, type of insurance, household member age, Individual income, presence of chronic illness. Thus the findings brought different results in terms of the significance of the 2 models.

The findings revealed that in the first model of ownership of insurance among individuals out of 6 variables stated above 5 were found significant but one in which it was education in terms of its categories was found insignificant thus the significant factors involved; Marital status, Gender, Premium affordability, number of dependents and Employment status, these variables showed their influence on ownership of health insurance in a negative and positive way and thus with investments into the slum dwellings through increasing job opportunities, premium price reductions, controlled births/ family planning, as well as provision of knowledge on gender equality and women empowerment in different cultures. This could improve not only improve health insurance ownership in the region and nation as well but also; Women confidence, poverty alleviation in these areas, as well as reduction of slum dwellings.

The findings of the other model of 9 variables showed 3 of the variables being significant, these significant variables involved; Ownership of health insurance, presence of chronic illness as well as income level. Thus showing their influence on the out of pocket expenditure of the individuals in the slum dwellings in a positive and negative way. Through the stata regression analysis the average out of pocket expenditure that was found to be spent by the individuals in these areas with those who have health insurance was 16,160 tshs.

6.3 Conclusion

The purpose of this study was to analyze health insurance coverage and financial protection among slum dwellers in Dar es Salaam when faced with unforeseen health contingencies, the study was based in Tanzania Dar es Salaam. The study was guided by three objectives which involved; to analyze the extent of insurance coverage among slum dwellers in unplanned settlement areas, to determine factors affecting ownership of health insurance with regards to slum dwellers those with cards and those without cards, to analyze factors influencing OOP among slum dwellers during

unforeseen contingencies. The result showed that many of the individuals living in the slum areas aren't possessing or owning health insurance this is regarded due to different reasons but many of the factors were socio-demographic and thus showed many of the individuals in the

The first objective was to analyze the extent of insurance coverage among slum dwellers in unplanned settlement areas, the municipalities of Kinondoni, Ilala and Ubungu were taken in terms of information collected, thus with the "extent" the researcher wanted to know the number of individuals in terms of percentage to those with ownership of health insurance and non-ownership of health insurance. Thus the results showed that most individuals don't own health insurance, as it was shown by the figure 4.1 in chapter 4 this may be due to different factors such as education, employment, and other factors influencing ownership of health insurance.

We then look at the second objective, which also was more empirical in nature, thus interpreted with applications of STATA as well as SPSS, the objective aimed at determining the factors affecting ownership of health insurance with regards to slum dwellers those with cards and those without cards, different factors were found significant these factors involved: Marital status, premium affordability, Sex, number of dependents as well as employment status. Thus though ownership of health insurance among individuals hasn't spread at a wide scope the above-mentioned factors helped influence the fluctuations among individuals wanting to own or not own health insurance.

Looking at the third objective which involves analysis of the health insurance on out of pocket payments among slum dwellers. The objective aims at looking on how health insurance influences out of pocket payments when purchasing the services in question. Thus it has been regarded that different factors such as; Educational levels, Income level, chronic illness, also a certain average of 16160TZS in terms of out of pockets, thus showing a high out of pocket that if an individual doesn't have health insurance in comparison to the individual with health insurance.

6.4 Policy implications:

Thus as according to the study, the following involves recommendations that could improve the expansion of the health insurance sector not only

The study of Health insurance and financial protection among slum dwellers in Tanzania aimed as in the explicit explanation of the title of the study wanted to look at the extent of the insurance industry especially at the slum dwellers that is those that are living in settlement of below human standards of living. The study wanted to exploit Tanzania's capabilities of health provision not only on to privileged individuals but also to those that are underprivileged. The researcher recommends that the ministry of health should provide enough budget so as the citizen to be satisfied with the health services provided and encourage check-ups by the individuals.

The study based on the health sector as through the study aimed/hoped to influence policies to improve insurance integration into different treatments, improve access of healthcare not only to those who can afford it but to those that find it difficult to get it due to different factors. Most of the slum dwellings are dominated by individuals who work in the informal sector through existing groups and associations in which premiums can be paid in terms of installments through them. The informal sector businesses should not be discouraged and not be forced out as they give employment to those that dwell in these slums so as to not enter into illegal activities.

The study based also on the Insurance sector that is through the study aimed/hoped to improve policies that can influence premiums not only in public companies but also in private companies thus opening the doors to many more Tanzanian's and thus influencing the international insurance companies to come and invest more in Tanzania and thus improving better access to health care. There is a need to achieve of achieving universal coverage through expanding and investing in the health sector especially in primary health care thus increasing geographical expansion and coverage in the nation of Tanzania.

The study and findings show the insurance environment in the nation and show the lack of knowledge and intention many of the individuals living in slum areas on their intention to acquire insurance status as well as the amount that is directed towards health whereby it could be directed towards in the adding up of other sources. One of the solutions can be for governments and its sub-sectors to come up with strategies one of them being education towards the individuals so as to increase health insurance knowledge among individuals of Dar es Salaam and other regions of Tanzania. Thus given proper measures and interventions Tanzania will take a big step from a problem of few individuals having access to insurance, while a large extent finding it difficult in affording treatment and paying a large amount in getting treatment.

6.5 Limitation of the study

Any study or research can have limitations and factors that hinder its complete effectiveness or impeccability, the limitations can be of different measures and forms these limitations can be of accessibility, location, measurability, financial ability, or even environmental hindrances, that do not enable the researcher to collect and analyse the intended data that was required to enable completion of the study taken underway. In pursuit of the study of health insurance coverage and financial protection among slum dwellers in Tanzania: a case study of Dar es Salaam. Especially in the collection of data, the limitation encountered were as;

Limitation in the scope; The study was based in Dar es Salaam alone and not also other regions thus in terms of the scope of the study we can say that it is limited to only one part of Tanzania this was according to some economic, and social reasons, thus brought generalization of findings to only Dar es Salaam.

Methodology; in terms of the methodology we look at the data collection techniques and their hardships in terms of the efficient use and involving the respondent's true responses to the required information this may be due to education difficulty, shyness, also as we look at the Location of Data collection; as the research showed it was an empirical study of Dar es Salaam city, but not all municipalities were checked, the ones that were collected were Kinondoni, Ilala, and Ubungu. Leaving

Temeke and Kigamboni not encountered this was one of the limitations of the study and the reason for this can be expressed through the following limitations such as.

Bureaucracy in administrative offices; as the statement expresses, in the pursuit of permits for data collection in different municipal offices there was a lot of movement, questions, and documents to fill in regards to the intended study. This was seen in different administrative offices and led to the acquiring of the permit to take a lot of time than anticipated as in some places it took more than a week this led to reduction of time in acquiring data in many areas as time wasn't a friend as well, also like the following limitation.

Time; with time one can say it depends on the sample in collection and the location of the data intended to be collected, in accordance with the above limitations which have also caused time to be a limitation, by definition of time being a limitation it mostly involves in the collection of data through one municipality to another as the sample of the researcher was 400 individuals living in the slum areas, time was considered not enough as through bureaucracy and others the researcher couldn't collect data through all the intended municipalities of Dar es Salaam.

Funds (Financial factor); financial capability is the funds that were injected/invested in the research in the completion of different aspect of the study, as it is a limitation, the lack of funds couldn't enable; some areas to be reached to collect data, some individuals in these slum areas wanted to be compensated so as to provide their information for the study, thus with limited funds it also limited the study.

6.6 Area of further Study.

The study aimed at investigating two major things, first the extent of individuals of those that have insurance and those that don't have insurance in slum areas of Dar es Salaam, also secondly it aimed at investigating among those that have insurance the financial protection that their insurance offers them, this is through the measurement of out of pocket payment expenditure by the individuals living in these areas. The researcher proposes further studies to be concentrated location wise, as the study only focused on Dar es Salaam and in three main districts, further research can involve the other parts of slums in Tanzania, areas such as in Temeke and

Kigamboni, limitation was on to socio-economic factors in the influence of insurance ownership as well as out of pocket expenditure other factors such as environmental factors (as we are considering those in slum areas), Also as well as supplier side of the wheel as the study based on the market/demand side on those that require insurance it didn't investigate on the supplier side that is those the companies and donors that provide insurance to these individuals, thus other studies should take that into consideration.

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APPENDICES

APPENDIX I

QUESTIONNAIRE: HEALTH INSURANCE COVERAGE AND FINANCIAL PROTECTION AMONG SLUM DWELLERS, A CASE STUDY IN DAR ES SALAAM REGION.

Dear Sir/Madam;

My name is Julius E. Buhire a student of Mzumbe University studying a Masters of Science Degree in Economics. The purpose of this questionnaire is to acquire/collect data on the study of “Health insurance coverage and financial protection among slum dwellers in Dar es Salaam”. Your information is gladly important and will be treated as confidential and this information will be used for the intended purpose of the study.

SECTION A: PERSONAL INFORMATION

Instructions:

Please participate in the study by providing the correct information on the open blank spaces, thank you.

(1)	<u>Name of Respondent?</u>	
(2)	<u>Gender of Respondent?</u>	
(3)	<u>Age of the Respondent?</u>	
(4)	<u>Area/Municipality of residence.</u>	
(5)	<u>Marital Status.</u>	

SECTION B: HEALTH INSURANCE COVERAGE AMONG SLUM DWELLERS IN UNPLANNED SETTLEMENT AREAS.

(1) Do you have health Insurance? (Provide reason for the selected choice)

- (a) Yes (b) No

.....

(2) What type of health insurance do you have?

- (a) Private (b) Public

(3) Which Insurance provider are you registered with?

.....

SECTION C: FACTORS AFFECTING OWNERSHIP OF HEALTH INSURANCE AMONG SLUM DWELLERS THAT IS FROM THOSE WITH CARDS AND THOSE WITHOUT.

(1) Occupation of the individual

- (a) Private sector employed (b) Public sector employed (c) Self-employed (d) Unemployed.

(2) Educational level

- (a) Primary Level (b) Secondary Level (c) Tertiary level (d) None

(3) What is the status of the premium paid?

- (a) Cheap (b) Expensive (c) Decent

(4) Number of Dependents in the household?

- (a) Children (b) Old aged individuals (65+) (c) stay home women

..... (In numbers)

SECTION D: EXAMINING OUT OF POCKET EXPENDITURE AMONG SLUM DWELLERS.

- (1) How many times have you visited the hospital per month?
.....
- (2) Income level of the individual?
- (3) Provide reason for the chosen insurance provider in (section B above)
.....
.....
- (4) Is any member in the household disturbed by a chronic illness and which illness is it?
.....
.....
- (5) What is your health expenditure budget?
.....
- (6) How much is your out of pocket expenditure?
.....
- (7) Is there a difference in out of pocket expenditure between when you had no health insurance and now that you have health insurance? (Provide reason for the choice selected)
- (a) Yes (b) No
.....

SECTION E: ANALYSE THE IMPACTS OF HEALTH INSURANCE.

- (1) Are you satisfied with your health insurance?
- (a) Yes (b) No
- (2) What is the difference at the period of having health insurance and when you didn't have health insurance?
.....
.....
.....
- (3) What are the challenges of not possessing health insurance? (Any)

THANK YOU FOR YOUR COORPERATION

APPENDIX II

PROBIT REGRESSION ANALYSIS.

Table 4.4: Probit Regression Analysis of ownership of health insurance among slum dwellers that is from those with cards and those without cards.

	Probit regression				Number of obs =	400
					Wald chi2(9) =	138.68
					Prob > chi2 =	0.000
	Log pseudolikelihood = -173.85056				Pseudo R2 =	0.3561
VARIABLES	Coef.	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
Ownins						
Married	0.5003777	0.1962289	2.55	0.011	0.1157762	0.8849792
male	-1.225588	0.1794521	-6.83	0.000	-1.577308	-0.8738687
PrivateEmp	1.380711	0.2219221	6.22	0.000	0.9457513	1.81567
PublicEmp	0.7726011	0.1912627	4.04	0.000	0.3977332	1.147469
cheap	0.3146581	0.1745523	1.8	0.071	-0.0274582	0.6567744
Primary	0.6473042	0.3699531	1.75	0.08	-0.0777906	1.372399
Secondary	0.8068729	0.3548575	2.27	0.023	0.111365	1.502381
Tertiary	0.8501731	0.4119339	2.06	0.039	0.0427975	1.657549
nodepsign	0.1209845	0.0442407	2.73	0.006	0.0342743	0.2076946
_cons	-1.316881	0.3355152	-3.92	0	-1.974478	-0.6592828

(STATA, 2019)

APPENDIX III

Marginal Effect regarding the Probit regression concerning Analysis of ownership of health insurance among slum dwellers that is from those with cards and those without cards.

Marginal effects after probit

	Marginal effects after probit						
	y = Pr(ownins) (predict)						
	0.34626341						
variable	dy/dx	Std. Err.	Z	P>z	[95% C.I.]		X
Married*	.1862702	0.07299	2.55	0.011	0.043215	0.329326	0.4025
male***	-.4542572	0.06083	-7.47	0.000	-0.573475	-0.33504	0.685
Private~p***	.5096909	0.06863	7.43	0.000	0.375177	0.644204	0.185
Public~p***	.293903	0.07206	4.08	0.000	0.152665	0.435141	0.2725
cheap**	.1166629	0.06477	1.8	0.072	0.010281	0.243606	0.43
Primary**	.248727	0.14211	1.75	0.08	0.029811	0.527265	0.205
Second~y*	.2988338	0.12662	2.36	0.018	0.050661	0.547006	0.4025
Tertiary*	.3232222	0.15277	2.12	0.034	0.023799	0.622645	0.2675
nodeps~n***	.044636	0.01617	2.76	0.006	0.012952	0.07632	2.26

APPENDIX IV

LINK TEST

Table 4.6: Link Test.

Probit regression			Number of obs =	400
			LR chi2(2) =	192.58
			Prob > chi2 =	0
Ownins	Coef.	Std. Err.	z	P>z [95% Conf. Interval]
_hat	.9851544	0.093564	10.53	0.000 .8017724 1.168536
_hatsq	-.0457733	0.085224	-0.54	0.591 -.2128092 0.1212626
_cons	.0320606	0.098033	0.33	0.744 -.1600806 0.2242018

(STATA, 2019)

APPENDIX V

OLS Linear Regression, 2Stage Residual Inclusion.

Table 4.10: Influence of health insurance on Out of pocket expenditure of individuals in slum areas with residuals.

					Number of obs = 294
					F(7, 286) = 27.14
					Prob > F = 0.0000
					R-squared = 0.3197
					Root MSE = .46273
		Robust			
Lnoop	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]
ownins	-0.49708	0.062713	-7.93	0	-.6205171 -.373641
1.female	0.09172 3	0.059877	1.53	0.127	-.0261322 .2095772
primary	0.09306 6	0.120625	0.77	0.441	-.1443597 .3304921
secondary	0.00314 8	0.112802	0.03	0.978	-.2188795 .2251749
tertiary	-0.03363	0.12011	-0.28	0.78	-.2700379 .2027868
presofchrillness	0.61959 8	0.067664	9.16	0	.4864162 .7527804
Lninc	0.04398	0.007249	6.07	0	.0297125 .0582472
_cons	9.70899 6	0.089268	108.76	0	9.533291 9.884701
					Number of obs = 294
					F(8, 285) = 25.63
					Prob > F = 0.0000
					R-squared = 0.3464
					Root MSE = .45437
		robust			
Lnoop	coeff	StdError	t	P>t	[95% confinterv.]
ownins	-0.55028	0.063534	-8.66	0	-.6753396 -.4252298
res	0.86472 3	0.277253	3.12	0.002	.3189999 1.410446
1.female	-0.12024	0.091505	-1.31	0.19	-.3003474 .0598756
primary	0.01844 6	0.122551	0.15	0.88	-.2227733 .2596647

secondary	-0.1826	0.120915	-1.51	0.132	-.4205995	.055401
tertiary	-0.40661	0.156363	-2.6	0.01	-.7143878	-.0988419
presofchrillness	0.60922 8	0.067158	9.07	0	.477039	.741417
Lninc	0.01810 5	0.011625	1.56	0.12	-.004776	.0409867
_cons	9.88934 9	0.105531	93.71	0	9.681629	10.09707