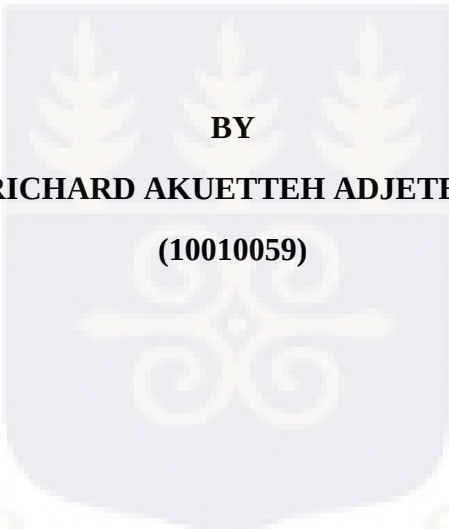


UNIVERSITY OF GHANA

**HEALTH CARE AND CONSUMPTION EFFECT OF HEALTH INSURANCE
ENROLMENT AMONG POOREST HOUSEHOLDS IN SELECTED DISTRICTS**



BY
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**THIS THESIS IS SUBMITTED TO THE UNIVERSITY OF GHANA,
LEGON IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR
THE AWARD OF DOCTOR OF PHILOSOPHY IN HEALTH POLICY AND
MANAGEMENT DEGREE.**

JULY, 2020

DECLARATION

I hearby declare that this thesis is the result of my own research and has not been presented by anyone for any academic award in this University or any other University. All references used in the work have been duely acknowledged. I bear responsibility for any shortcomings.

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CERTIFICATION

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DEDICATION

This work is dedicated to Almighty God and my family.

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LIST OF ACRONYMS

ART	Antiretroviral Therapy
ATT	Average Treatment Effect on the Treated
BNDES	Brazilian Development Bank
CBHF	Community Based Hospital Fund
CBHI	Community Based Health Insurance
CE	Catastrophe Expenditure
CHE	Catastrophe Health Expenditure
CHPS	Community -based Health Planning and Services
CIA	Conditional Independence Assumption
CSDH	Canadian Society for Digital Humanities
DHIS	District Health Insurance Schemes
DMHIS	District Mutual Health Insurance Schemes
DoH	Department of Health
DSW	Department of Social Welfare
EU	Expected Utility
EUT	Expected Utility Theory
FGD	Focus Group Discussion
FUE	Federation of Uganda Employees
GDHS	Ghana Demographic Health Survey
GDP	Gross Domestic Product
GHS	Ghana Health Service
GII	Gender Inequality Index

GLSS	Ghana Living Standard Survey
GoG	Government of Ghana
Gok	Government of Kenya
GPRS	Ghana Poverty Reduction Strategy
GSS	Ghana Statistical Service
GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
HBM	Health Belief Model
HIS	Health Insurance Scheme
	Human Immunodeficiency Virus/Acquired Immunodeficiency
HIV/AIDS	Syndrome
IBM SPSS	IBM Statistical Product and Service Solutions
ILO	International Labour Organisation
KII	Key Informant Interviews
L I	Legislative Instrument
LEAP	Livelihood Empowerment Against Poverty
LEAP	Livelihood Empowerment Against Poverty
LMU	LEAP Management Unit
MDGs	Millennium Development Goals
MHI	Mutual Health Insurance
MoGCSP	Ministry of Gender Children and Social Protection
MoH	Ministry of Health
MoLGRD	Ministry of Local Government and Rural Development
NCMS	New Rural Cooperative Medical Scheme

NHIA	National Health Insurance Authority
NHIF	National Hospital Insurance Fund
NHIL	National Health Insurance Levy
NHIS	National Health Insurance Scheme
NILCS	National Integrated Living Condition Survey
NSSF	National Social Security Fund
OECD	Organisation for Economic Co-operation and Development
OOP	Out- of - Pocket Payments
OOPHE	Out-of- Pocket Health Expenditure
PHC	Population and Housing Census
PSM	Propensity Score Matching
RCMS	Rural Cooperative Medical System
RMB	Regional Management Board
SDGs	Sustainable Development Goal
SDUT	State-Dependent Utility Theory
SHI	Social Health Insurance
SHP	Social Health Protection
SSNIT	Social Security and National Insurance Trust
SUS	Sistema Unico de Saude
UBS	Uganda Bureau of Statistics
UEBMI	Employee Based Medical Insurance
UHC	Universal Health Coverage
UIA	Uganda Insurers Association

UK	United Kingdom
UN CESC	UN Committee on Economic Social, Cultural Rights
UNICEF	United Nations International Children's Emergency Fund
VAT	Value Added Tax
WHO	World Health Organization

ABSTRACT

Social Health Insurance Schemes (SHIs) as Social Health Protection (SHP) interventions are an important tool for reducing poverty and ill health. For these reasons, governments employed SHI as a policy framework to promote access to healthcare, and to ensure financial protection among the poorest households to improve their health conditions. However, there is limited empirical studies on what motivates the poorest to get enrolled onto NHIS and how it helps them save income for consumption and other health outcomes. The study was conducted by engaging the Livelihood Empowerment Against Poverty (LEAP) household heads to identify the empirical evidence. The study also compared the consumption between insured and uninsured, and analysed the effects of NHIS membership on healthcare use and out-of-pocket health expenditure (OOPHE) among the poorest households. Decision making theories (Expected Utility Theory (EUT) and State Dependent Utility Theory (SDUT) and a Health behaviour theory (Health Belief Model (HBM)) were used as the theoretical lens for the study. The researcher adopted a pragmatic approach which involved the use of a mixed methodology, using both qualitative and quantitative approaches. A cross-sectional design was also adopted for the study. Entirely, the study was conducted in two districts; Shai Osudoku district in the Greater Accra Region and Amansie West district in the Ashanti Region and engaged LEAP beneficiary households

Thematic analysis approach was used to reveal the result of NHIS enrolment decision. In the analyses, the theoretical constructs of HBM proved useful in uncovering factors that influence enrolment decisions among poorest households. The study also found illness vulnerability and guaranteed financial access to healthcare as dominant factors that generally influenced household heads decisions to enrol onto NHIS. Addressing possible selection bias due to the non-random enrolment to the NHIS, the propensity score matching (PSM) technique was used to estimate the

difference in outcomes between treated and control groups. The results of the average treatment effects on the treated reveals that participation in NHIS tends to increase in consumption expenditure by GHC 263.43, hospital visits by 0.74 visits and reduce OOPHE statistically significant by GHC 79.77 with household members that are insured than households' members that are uninsured. By employing a mixed method approach instead of a quantitative approach alone, the study has contributed to existing knowledge by revealing a unique perspective on effects of NHIS on enrolment decisions among poorest households in Ghana. These positive outcomes of the study point to future research options.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Research Background

Equity in access to healthcare and financial support for basic healthcare services to vulnerable groups is a very significant health policy issue and a source of concern to stakeholders. It reflects both the needs to improve health outcomes and to meet both national and international obligations by making healthcare accessible. According to Asuming (2013), Gertler and Gruber (2002) and Wagstaff (2007) health shocks have a bad effect on the financial status of poor and uninsured households, and their ability to smoothen consumption. Nevertheless, countless poor and vulnerable households in most developing countries lack access to risks pooling mechanisms (Asuming, 2013). For this reason, the past decades have witnessed unpleasant global record of diminishing human access to healthcare and health protection systems. In 2010, the World Health Organization (WHO) global record revealed that approximately 150 million people suffer from financial catastrophe due to out- of-pocket health expenditures; whereas about 100 million people were pushed below the poverty line (WHO, 2010, cited in Kusi, Enemark, Hansen, & Asante, 2015 p.1; Okoroh, Essoun, Seddoh, Harris, Weissman, Dsane-Selby, & Riviello, 2018).

To address the issue of decline in access to healthcare and ensure financial protection for the poor and vulnerable, Social Health Insurance schemes (SHIs)¹ emerged as the main alternative with the purpose of extending SHP to the poorest households by improving their access to basic health services. SHI has become a critical component in poverty reduction, and it remains a key element of any effort to reduce social inequities in health and ensure the fundamental right to health, upon which social security is developed and achieved (Carrin & James, 2005; Scheil-Adlung, Bonnet,

¹ In this study, the term SHI is to be understood as a collective risk pooling and the redistribution of financial resources via tax-based funding to ensure protection against the cost of illness.

Wiechers & Ayangbayi, 2010). The adoption of SHI is a growing global phenomenon among countries that aim for Universal Health Coverage (UHC) to guarantee that all individuals and communities have access to essential health care without suffering from financial hardships. This supports what Bloom and Shenglan (1999) opined, that HIS is a risk sharing and redistribution between the poor and the rich, which of course is of no doubt.

In Africa, just as elsewhere, SHIs emerged as a policy framework employed by most governments to remove financial constraints to essential health care and help reduce the bad effects of health shocks (WHO, 2005; WHO, 2010).

In the case of Ghana, the National Health Insurance Scheme (NHIS) remains the financing tool for providing fair access to, and financial support for basic healthcare services to all Ghanaians, especially the poor and vulnerable persons, through the operationalization of an affordable health financing arrangements (MOH, 2004). The poorest households² form the exempt group under the NHIS, whereby they are not expected to pay any premium. However, in spite of being exempted from premiums and benefit packages, their enrolment rate in the NHIS remains low. In ranking by Kotoh and van der Geest (2016), they had the lowest enrolment percentage of 17.6%, whereas the poor had 31.3%, rich 46.4% and the richest 44.4%. The low level of enrolment among poorest households onto the NHIS is consistent with other studies (Aregbeshola & Khan, 2018b). The poorest households have limited access to financial resources. Thus, this is the proportion of the population who are still unable to spend more than GhC2.69 a day on food (Ghana Statistical Service, 2018). The poorest households have worsening health outcomes (Zhang et al., 2019) and find it extremely difficult to access basic healthcare. In addition to this, they also bear a greater

² Made of children of 18 years and below, the elderly above 70 years, State insured pensioners, pregnant women, persons with physically challenged, indigents, and the Livelihood Empowerment Against Poverty (LEAP) beneficiaries, (Awoonor-Williams, Tindana, Dalinjong, & Nartey, 2016; Kusi et al., 2015), who form the exempt group of the NHIS and being 8.4% of the country's population (Ghana Statistical Service, 2014a).

burden of disease and have high health risks (Dixon, Tenkorang, & Luginaah, 2011). Health indicators such as infant mortality rate (41 per 1000 live births) and under-five mortality rate (60 per 1,000 live births) are still high among this population group (Ghana Demographic Health Survey, 2014).

Despite the exemption strategies put in place by NHIA to offer financial protection to the poorest households, the poorest are less covered in the scheme (NHIA Report, 2018). Therefore, food insecurity and poor nutrition still persists and affects the health and well-being of the poorest. This has been the motivation for embarking on this study. Beside this, several studies in Ghana (Aryeetey et al., 2016; Blanchet, 2012; Okoroh, 2018) that have investigated and reported on the effect NHIS on health outcomes focused on how NHIS provides access to healthcare, improves health and reduces the financial burden to care. However, there is limited empirical studies on what motivates the poorest to get enrolled onto NHIS and how it helps them save income for consumption and other health outcomes.

Therefore, this study was conducted by engaging the Livelihood Empowerment Against Poverty (LEAP) household heads to identify the empirical evidence that can provide a better understanding on the factors that influence NHIS enrolment decisions among poorest households and the effect of NHIS membership on consumption, healthcare use and OOPHE.

1.2 Statement of the Problem

The adverse effects of ill health place additional burden on the poor, which leaves many households especially the poorest with less access to reliable health services and becoming more vulnerable, sinking into extreme poverty (GTZ-ILO-WHO, 2005; Waelkens, Soors, & Criel, 2005). It is to this extent that improving access to and the quality of basic healthcare services

among the poorest households and individuals is a subject of considerable interest. Most countries, including Ghana have now reoriented their health financing system towards attaining SHP for the poorest (Durairaj, D’Almeida, & Kirigia, 2010).

In the review of plethora of literature on decision-making theories and a health behaviour theory, theoretical and contextual gaps exist in identifying the factors that change or influence the people’s insurance decisions. These identified gaps are by virtue of the fact that most studies and applied theories on demand for healthcare have not been able to explicitly describe or offer better explanations to the changing nature of people’s enrolment decisions on health insurance, particularly like the NHIS. The literature also identified multi-factors that influence the health insurance enrolment decisions among poor households. Amo (2014), Antwi and Zhao (2012), Awuku, Nketiah-Amponsah and Osei-Akoto (2014), Boamah (2015), Kotoh and van der Geest (2016) and Noi (2012) in their studies disclosed that NHIS enrolment decisions depends on number of factors which include access to health facility, cost of service, and a host of other socio economic and demographic characteristics. However, these studies were not clear on the factors that get the poorest households to enrol onto NHIS (Kotoh & van der Geest, 2016; Savedoff, de Ferranti, Smith, & Fan, 2012). To address this theoretical and knowledge gap, this study is attempting to figure out which theoretical constructs of EUT, SDUT and HBM underpin enrolment decisions among poorest households, particularly those with both testable propositions and strong predictive powers.

Studies suggest that health insurance enables insured households to reduce their OOPHE which in effect helps to smoothen their consumption and improve health conditions (Gertler & Gruber, 2002; Levine, 2008). Nonetheless, there are even fewer studies that compare the consumption between the insured and uninsured household members and their findings are in diverse. A study

that offers fact-finding is that of Karagiannaki (2009) which concluded that consumption is lower among people with poor health than people with good health because ill health impacts the consumption capacities and needs of people. Unfortunately, her study never made any emphasis on insurance, let alone the medical and non-medical consumption pattern of the poorest. Sheu and Lu (2014) attempted to address this knowledge gap by reporting that the National Health Insurance (NHI) improved spending on household conditions (rental and water bills) significantly; Wagstaff and Pradhan (2005) reported that the Vietnam insurance scheme increases non medical households consumptions. But studies did not compare the consumption difference between the insured and uninsured household members. This creates a knowledge gap demanding empirical evidence to resolve. In the course of reviewing the empirical studies on consumption with respect to studies in Ghana, there is not much information on the effect NHIS membership on the consumption between the insured and the uninsured, let alone the poorest households. This brings to light the need to have real substantive evidence of the effect of the NHIS membership on consumption between insured and uninsured poorest households. The researcher is quite confident that this study is the first attempt to address the unraveled gap.

Review of the empirical studies showed that health insurance enrolment also protects households from catastrophic health expenditures (CHEs) and consequently reduces poverty, yet health costs remain catastrophic for a large proportion of insured households. Aryeetey, Westeneng, Spaan, Jehu-Appiah, Agyepong and Baltussen (2016) in their study reported that about 7-18% of the poorest households incurred CHEs due to out-of-pocket payment. Further, on the evidence brought to fore by Kotoh and van der Geest (2016) the NHIS is failing to achieve its primary objective of achieving equity in access to healthcare by protecting the core poor (most vulnerable) citizens through its exemptions. On this evidence, it is possible that the insured could incur OOPHE in

seeking healthcare services, which can push majority of them into extreme poverty. Evidence is required to well explain the effects of NHIS on OOPHE and healthcare use among the poorest subscribers.

It is therefore necessary to address these gaps to achieve the specific objectives of the study.

1.3 Research Objectives

1.3.1 General objective

The main objective of the study was to explore the factors that influence NHIS enrolment decisions among poorest households and analyse the effect of NHIS membership on consumption, healthcare use and OOPHE.

1.3.2 Specific objectives

Specifically, the study seeks to achieve four objectives namely:

- i. Examine the applicability of EUT, SDUT and HBM on NHIS enrolment decision in the context of Ghana.
- ii. Compare the consumption between the insured and uninsured poorest households.
- iii. Analyse the effects of NHIS membership on healthcare use among the poorest households.
- iv. Analyse the effects of NHIS membership on out-of-pocket health expenditure (OOPHE) among the poorest households.

1.4 Research Questions

To achieve the study objectives, the research sought to answer the question “How the implementation of NHIS’ exemption policy does affect the health status of the poorest households in the study areas?”

Specifically, the study was guided by four questions as listed below:

- i. How are poorest households of the study areas participating in the NHIS and what are the factors that influence their enrolment decision?
- ii. What is the consumption between the insured and uninsured poorest households' in the selected districts?
- iii. What are the effects of NHIS membership on healthcare use among the poorest households?
- iv. What are the effects of NHIS membership on out-of- pocket healthcare expenditure among the poorest households?

1.5 Significance of Study

A range of factors signal the rise to prominence of SHP (Waelkens, et al., 2005). Hence, the importance of conducting this research study cannot be overemphasized.

The study provides empirical substantive findings to inform health policy makers and managers to consider the unintended and/or intended effect of NHIS of Ghana on enrolment decisions and other related health outcomes among the poorest households. This could make a huge difference in providing better understanding on the issue relating to, and ensuring effective implementation of the intervention. It will also inform policy makers on the need to strengthen NHIS to help overcome issues of healthcare access, cost and equity among poorest households.

Conducting this study will help us know if the implementation and operations of the NHIS aligns with the goal(s) of the scheme. Thus, it will assist us to know whether government's implementation strategies are working to achieve the desired goals of its health protection policies- especially in minimizing extreme poverty and improving the health status of the poorest population

in Ghana. In addition, it will provide baseline data to health policy makers in the country on the best management practices for the sustainability of NHIS to promote access to quality healthcare among poorest population.

Study findings will be of tremendous value to institutions: Ministry of Health (MoH), Ghana Health Service (GHS), the National Health Insurance Authority (NHIA), the Ministry of Local Government and Rural Development (MoLGRD), the Ministry of Gender, Children and Social Protection (MoGCSP), the District Assemblies, and Development Partners that are currently supporting the implementation of the NHIS. The findings would benefit these institutions and other stakeholders on effective strategies to adopt to improve the implementation of the intervention in bettering the safety and quality of healthcare delivery to the poorest, promoting their access to free healthcare, and improving the socio-economic health status among them.

Finally, the study provides empirical grounds in pursuance of further research in the arena of SHP. Thus, the study's outcome will be an insightful document contributing to SHP literature, which can be used as secondary data or reviewed by prospective researchers and/or students for further or other empirical studies.

1.6 Scope of the Study

The research was conducted in two districts -Shai Osudoku District in the Greater Accra Region and Amansie West District in the Ashanti Region. These districts therefore constituted the geographic scope of the study. In view of the fact that health insurance is a broad concept, the study was also conducted within the context of the effect of NHIS on enrolment decisions and other related health outcomes among the poorest households such as their healthcare use and OOPHE, consumption between insured and uninsured and theoretical tenets underpinning their

enrolment decisions. The units of analyses for the research are the LEAP household heads in the selected districts, as well as officials of the National Health insurance Authority (NHIA), Department of Social Welfare (DSW) and Community Development (CD), and LEAP Management Unit (LMU) from each of the selected district.

1.7 Overview of Research Methodology

The researcher used both primary and secondary sources to collect data for this study. The primary data were gathered through questionnaires and extensive face-to-face interviews with LEAP household heads in the selected districts, as well as officials of the NHIA, DSW and CD, and LMU from each of the selected district. The secondary data were obtained from textbooks, articles, journals, magazines, newspapers, annual reports and the internet. A convenience sampling technique was employed in selecting participants for the Focus Groups Discussion (FGDs) and purposive sampling technique was used to select subjects such as officials of the NHIA, DSW and CD, and LMU from each of the selected district. Multistage sampling techniques was used to select households for the household survey. Purposive sampling technique was used to select each sampled household randomly and proportionally from each LEAP communities (stratum) per district until the exact total number of respondents was secured. The data were analyzed using Statistical Soft-ware STATA version for the quantitative, and Nvivo for the content analysis of the qualitative data. These designs and methods were employed because the researcher wanted to have accurate and authentic information for his work. Again, the researcher wanted a fair representation of the respondents. The extensive face-to-face interviews with household heads in the selected districts, as well as officials from each of the selected districts enabled the researcher obtain relevant and firsthand information for the study.

1.8 Limitation of the Study

A study of this nature comes with diverse challenges unknown to the researcher. With this study, the limitations encountered in execution were basically three. The first limitation arose from its focus on only two LEAP districts. Its findings would have been more suitable to generalize if all other LEAP districts in the country have been included. This does not mean that inferences cannot be drawn from the results of the final study but that it may lack general applicability due to the geographical location and settlement heterogeneity of the poorest households. Thus, the dynamism and the context of the implementation of the NHIS to be precise might not be the same in the rest of the districts in the various regions; hence, conclusions must be interpreted with extra caution. Secondly, as a cross-sectional study design, it is anticipated that a probability random sampling technique would be adopted to sample the targeted participants. This comes with additional tasks such as acquisition of entire list of participants, tracking all units, and winning their will of participation. However, in a situation whereby the list of the entire LEAP households was non-existent, a purposive sampling technique was applied as the alternative. Truly, this brought biasness in the selection of participants, which affected the true representation of participants. This in a way has undermined the objectivity and generalization of the study findings. Lastly, two research assistants were employed to be deployed to the various settings for data collection responsibilities assigned to them. Most often, bias from such assistance do happen, especially in data processing. Such biasness during data acquisition and processing from the research assistants could be adulteration or manipulation by the subjective practices of them, however, the researcher still considered the acquired data as genuine and real, which helped explore the phenomenon under study.

1.9 Organization of the Study

The research study is made up of seven chapters as follows. Chapter one (1) presents the general introduction of the study. It deals with the background of the study, overview of the problem under study, set of specific objectives, research questions, significance of the study, scope of the study, limitation of the study, and lastly the organization of the study. Chapter two (2) discusses the research context. The first part of the research context discusses the SHP initiatives from Human rights, health accessibility and country perspectives. The second part of the chapter also examines the SHP schemes around the world, Africa and Ghana. The final part of the chapter further focuses on poverty trends in Ghana, the need to link the poor and vulnerable populations to existing SHP interventions. Chapter three (3) deals with the literature review and empirical studies. This chapter draws on suitable theoretical and conceptual frameworks that help explain the context of the study and present deep discussion on empirical findings that relate to the study. The final part of the chapter provides the conceptual framework for the study. Chapter four (4) discusses the research paradigm and philosophy, research design, research approach, profile of research setting. It also discusses the unit of analysis that focuses on sample sizes; sampling techniques; data collection instruments used; type and sources data and data analysis and presentation. Chapter five (5) provides the analysis of research findings related to the applicability of the existing theories on NHIS enrolment decision in the context of Ghana. Then Chapter six (6) is dedicated to the analysis and discussion of household data collected in the selected districts. Finally, the summary of the findings, applicable policy recommendations and conclusions of the study are presented in the seventh (7) chapter. The chapter also indicates how the research has contributed to existing knowledge.

CHAPTER TWO

2.0 RESEARCH CONTEXT

2.1 Introduction

Upon the very essence of social health protection (SHP), many countries particularly those in middle and low income level across the globe have executed several interventions in diverse forms, approaches and processes. In Europe for instance, United Kingdom with their National Health Service (NHS) since 1946 has been noted to be leading the SHP frontier on the continent. In Asia-Pacific, China has been one of the leading countries to have implemented several SHP interventions from the late 1950s to 2007. Included in it are the implementation of rural cooperative medical system (RCMS), urban employee-based medical insurance (UEBMI), the new rural cooperative medical insurance (NRCM) and urban resident-based medical insurance (URBMI). Nonetheless, some countries in South America have also executed a couple of SHP interventions, especially Brazil. Brazil via her 1988 Constitution also established the amalgamated health program called Sistema Único de Saúde (SUS).

African countries including Kenya, South Africa, Uganda, Nigeria and Ghana have all demonstrated eagerness in leading the mantle in the implementation of SHP interventions. The government of Ghana since 2003 has introduced the NHIS with decentralized operations.

This chapter, therefore, discusses the SHP initiatives from human rights, health accessibility and country perspectives. It also examines the SHP schemes around the world, Africa and Ghana. Among other critical aspects comprising brief history of the SHP intervention, access, funding, and challenges of health care schemes of some countries are reviewed. The chapter further focuses on poverty trends in Ghana, and the need to link the poor and vulnerable populations to existing SHP interventions.

2.2 Discussion on perspectives of Social Health Protection

2.2.1 Human rights perspective

“Human rights are perceived as toolkits that permit persons to have lives of self-esteem, to be free from servitude and equal citizenry, to exercise expressive choices, and to pursue their life plans” (Yamin, 2008).

To begin with, the human right advocates of SHP argue that there is a resilient and symbiotic connection between SHP and human rights. This is consistent with the position of United Nations International Children's Emergency Fund (UNICEF) (2012) that SHP falls within the overall Social Protection (SP) system of public and private set of policies and programmes that are aimed at removing socio-economic vulnerabilities of all persons in order to ensure a their impartial rights to a minimum standard of well-being (UNICEF, 2012). From a legal perspective, human rights advocates argue for integration of human rights principles and laws into the design and implementation of SHP initiatives. They claim that this would empower the poor and vulnerable and uphold their rights in terms of their health needs. The human right advocates call for a human-right-based approach as the only way for the disadvantaged population to access the full benefits of SHP initiatives. To them, human-right-based approach to SHP perspectives will promote participation, accountability, non-discrimination, empowerment, linkage to rights, and sustainability (Yamin, 2008).

The human right agencies advance the formulation of legal framework (legislative system) in support and protection of those likely to be vulnerable in society. This framework will underpin governments' actions on human rights matters, and form the base for the development of plans of action on the implementation of SHP initiatives. This stems from the fact that access to basic healthcare is an important weapon for growth and poverty reduction, especially in the world's

poorest nations (ILO-WHO, 2009). Sepúlveda and Nyst (2012) hold the view that SHP by protecting children's rights is a means of promoting access to healthcare among children, and reducing child labour. The repeated emphasis is on the rights of all individuals or citizenry.

SHP is a human right issue, and not just a social intervention. Health, education, social security, sanitation, water, employment, and food are the core of human rights, confined in human rights treaties like the International Covenant on Economic, Social and Cultural Rights; and enshrined in Articles 22, 25, 27, and 29 of the Universal Declaration of Human Rights, of which all countries adhere to. Hence, individual citizens have the right to social security and the right to adequate standard of living (ILO-WHO, 2009). Sepúlveda and Nyst (2012) reaffirm that under human rights decrees (Acts), it is obligatory for states to formulate and implement SHP systems and ensure right to social security by all individuals living in their terrain.

Human rights advocates of SHP stipulate that the right to SHP, in three basic principles mean that:

- The cost of delivery of SHP programmes such as social health insurance must be borne at least in part by the state or community as a whole.
- The cost of accessing SHP must not excessively burden the individuals financially.
- Arrangements or implemented strategies for SHP accessibility must not consequently bring about needless delays in its delivery (European Social Charter, 2009).

Study by Sepúlveda and Nyst (2012) in Finland, explains that the right to participate in SHP invention such as health insurance comes in two forms: (a) social insurance schemes, which require beneficiaries' financial contribution, and (b) social assistance scheme, which is non-contributory but demands taxation funded measures. The understanding of this from the human right supporters' view is that SHP must be partly funded by the state for the poor and vulnerable population to enjoy their right to better health. Another issue raised by the advocates of human

rights to SHP is that SHP design and implementation should be complementary in order to formalize and strengthen the access to safe, clean, accessible and affordable drinking water and sanitation as well as affordable housing for all (UN Committee on Economic, Social and Cultural Rights, 2002). They term it ‘Delivering as One’ tactic. To them delivering as one is greater than the entirety of the fragments of SHP (ILO-WHO, 2009; Sepúlveda & Nyst, 2012; Yamin, 2008). SHP should aim at targeting and protecting the vulnerable population on the basis that presently about 80 percent of the world population has inadequate SHP coverage. The masses in the informal economy, especially women, children and smallholder farmers, are disproportionately represented with only rudimentary access. (ILO-WHO, 2009).

In the realization of human rights, the (HR) activists assert that SHP must be viewed from two perspectives: 1) Essential Service: guaranteeing availability, affordability, continuity, and accessibility of state services e.g. social works, education, sanitation, health etc.; and 2) Social Transfers: a rudimentary set of indispensable social cash transfers (ILO-WHO, 2009). Thus, some SHP initiatives such as social health insurance schemes are the certain way for reducing poverty as they promote access to basic healthcare. Some municipalities in China, for example, have already introduced social security schemes and Brazil is also implementing uniform health system. Moving forward, from financial (economic) dimension, human rights advocates of SHP express that despite appreciable external funding increment over the past decade, design and implementation of SHP intervention or SHI in the poorest countries remain heavily underfunded. They believe that expenditure on SHP should aim at both kick-start growth and inclusive support for sustainable SHP programmes development in the long run (Sepúlveda & Nyst, 2012; Yamin, 2008). Implementation of SHP initiatives acts as a socio-economic stabilizer that curtails the

prospective financial and economic downturn by means of preventing poverty, maintaining stabilization in collective demand and continuity in services. (ILO-WHO, 2009).

They again argued that SHP is a concerted action against financial and economic catastrophe. An estimation by the WHO in 2009 revealed that, a greater number of the world's extremely poor population (14 billion) do not have access to needed SHP services (European Social Charter, 2009; Yamin, 2008). In the human right perspective, global economic and financial downturn roll back years of investments in strengthening human development and in pursuance of globally consensus development goals such as the MDGs/SDGs. Their argument is based on the fact that economic and financial crises have enormous adversities: rise in child labour; decrease in domestic social expenditure (spending), especially on health and education; reduction in aid inflows (influx); deterioration in education and health services; and, increases cash-and-carry (full cost recovery) system on healthcare. (ILO-WHO, 2009).

The Human rights activists from societal point of view hold that the SHP is a societal cohesive mechanism; that is, SHP is a coherent system-wide approach (European Social Charter, 2009; Sepúlveda & Nyst, 2012; Yamin, 2008). They argue that the international organisations like the UN should safeguard (protect) the fundamental elements of societal cohesion, which are health, education, security (protection) and other important social sectors.

2.2.2 Health Accessibility Perspective

SHP is based on the premise of universal access to healthcare by all persons. Accessing health service is quintessential in every effective SHP initiative. Hounton, Byass and Kouyate, (2012) in a study to “assess effectiveness of a community-based health insurance scheme on utilization of health services as well as on mortality and morbidity” discovered that there is a heavy bottleneck for people to access the elemental components enshrined in SHP interventions. This bottleneck

was discovered to be finance and legal protection. These legal protections, according to Binagwaho, Fuller, Kerry, Dougherty, Agbonyitor, Wagner, Nzayizera and Farne (2012), in many nations invariably do not ensure access to SHP for majority of the disadvantaged, specifically for the adolescents, disabled, and the vulnerable children.

In a study, “Rwanda’s health policies for adolescents to determine the inconsistencies and gaps in policy, which make them vulnerable to worse HIV outcomes”, Binagwaho et al. (2012) identified policy barriers, missing gaps, and discrepancies within the legal protection that to them create age-related limitations to SHP. These scholars argue that the most pressing problem among the participation requirement for SHP is age. Age has placed a heavy constraint on all individuals accessing SHP.

Financial barrier poses threats to individual health security and the development and sustainability of every healthcare programme. According to Hounton et al. (2012), the consequential effects produced by financial barriers include low enrolment rate of SHP subscribers, high mortality rate, delays in gaining access to emergency health treatment (delivery), low quality of healthcare, insignificant changes in SHP outcomes, and selection bias in choosing the rightful beneficiaries of any SHP intervention.

Accessibility brings about utilization; and the effect of utilization of health services is a signage of effective SHP initiative (Ouimet, Fournier, Diop, & Haddad, 2007). A regression and descriptive statistical analysis performed with a sample size of 117 respondents by Hounton et al. (2012) demonstrated that statistically there is a strong significant correlation between utilization of SHP and subscribers. In a community-based SHP intervention, ensuring correct placement of health facility do not necessarily widen subscribers, rather it widens accessibility and patronage (Guanais, 2013). A concern raised here is that SHP executed in areas nearer to the poor masses and the

disadvantaged brings about positive outcomes by reducing health calamities (negativities). Such positive outcomes include low mortality rate, increased enrolment, decreased pestilence, and prevention of diseases. Hounton et al. (2012) discovered in their study that households located within areas covered by SHP experience 50% reduced mortality rate, as compared to individual households located (far from) outside areas covered by SHP scheme.

Advocates of health accessibility agitate for a constitutionally enforced universal access to SHP. In the view of Guanais (2013), this will lead to the creation of a Unified Health System. This universal access to SHP must integrate two prime health utilization elements, namely: primary healthcare and conditional cash transfer, which are the main drivers of unified health system (Byass & Kouyate, 2012; Guanais, 2013). It was recommended that, for any SHP initiative to be accessed and to a larger extent utilized by community households, there must be regular and future evaluation of the initiative. Universal access to SHP initiatives will improve access to health, promote quality healthcare, and expand healthcare coverage; and in all, produce positive health outcomes.

2.2.3 Countries Perspective of SHP

It is very essential to underscore from the inception some prime distinctions pertaining to the functions, scale and scope of SHP interventions and social support schemes in the developing countries, in comparison with the developed countries. Emphatically, social support systems in the form of health interventions in the developed countries are vastly a residual safety net with the sole mandate to protect the poor households' and individuals from the deliberating consequences of impoverishments, after all other elements of SP labour market regulation, social insurance, and basic services—have proved unsuccessful (Gough, Bradshaw, Ditch, Eardley, & Whiteford, 1997).

SHP interventions such as the NHIS in Ghana is currently offering free health care services to pregnant women, indigents, mental health patients, extreme poor households and persons 70 years and above on specific health conditions. The MoH through the GHS is also offering exemptions to categories of vulnerable groups in Ghana but covers a small number of the working force. The fundamental services are extremely stratified; also, the labour market rules are very thin and poorly enforced, and the rate of vulnerability and poverty are extreme. Social support is the primary but sometimes the only social security instrument to redress vulnerability and poverty.

Acknowledging the importance of health security, the primary goal of SHP in most developing countries calls for new strategies and models. In developing nations like Ghana, SHP initiative is created to function in a wider spectrum than in the developed countries, as a prime element of development policy. As in the developed countries like Germany and Britain, social support systems aim to ensure that the minimum magnitude of consumption to defend poor households against the worst consequences of deprivation.

Adding to the above, it is expected in the developing countries that SHP will be a strengthening mechanism to build capacity, whether by human resource investment or by physical assets. Furthermore, it is anticipated that it will promote access to basic health care services to weaken social exclusion and improve the partaking of the poorest households in their various societies and communities.

When compared to the importance of residual and compensatory function in developed nations, SHP in the developing nations have a very challenging function. SHP interventions in the developing countries have a fundamental function within the social protection framework as well as within the developmental scope. In the developing countries, the patterns of SHP have been solely negative in the last three decades, demonstrating a decline in those sectors of the developing

world, including Latin America and the transition countries like China, where it previously recorded significant results; and stagnation in those countries where it previously had reached a very minute proportion of workers who are extremely poor such as South Asia and sub-Saharan Africa.

In Africa, the sub-Sahara countries of late demonstrate a very tight evolution of SHP programmes than their counterparts in other regions. In the early 1990s, only a small number of countries had planned to initiate social insurance programmes that cover up more than a proportion of their labour force, of which most were civil servants. Many countries in the developing region have less than 10 percent social health insurance scheme coverage for the labourers (Barrientos, 2008c). A huge agriculture sector and a huge occurrence of informality have joined the limited scope of the labour market regulation, albeit some nations do possess national legislation within this area, example is the minimum wage level in Uganda. Apart from South Africa and Namibia, only few countries have broad social health insurance programmes. In countries like Zimbabwe, Zambia, and Mozambique, public welfare programmes assisting groups under extreme poverty have had a very limited funding and low profile in state affairs.

SHP interventions in Latin American countries trace back to the early twentieth centuries, specifically, the creation of health insurance programmes for civil servants, comprising civil servants, urban private workers, military officers, and teachers (Ferreira & Robalino, 2010). Countries that are located in the Southern zone: Brazil, Uruguay, Chile and Argentina were the first to have introduced occupational programmes in the early 1920s, motivated by the Bismarckian strategy. These job-related plans provided old-age pensions, survivorships, disability pensions and in certain cases health insurance. In broad terms, availability of social health insurance to part of the private labour force sector emanated later, motivated by the 1942 Beveridge

report in the United Kingdom. With this motivation, countries like Costa Rica, Paraguay, Venezuela, Colombia and Mexico in Latin America foresaw the second trend of social health insurance adoption in the middle of 1940s. Subsequently, the Caribbean countries and those in the Central America followed in the middle of 1950s and 1960s, correspondingly (Ferreira & Robalino, 2010).

For several decades in Latin America, social protection was significantly synonymous with that of social health insurance. In the two decades after the World War II, the system that was introduced within that period contained massively old-age, survivorship pensions, disability and some health insurance components. Solimano and Taylor (1980) asserted that this was extended to the private sector labourers. However, coverage was limited to formal sector employees in the urban sectors. In Latin America, social health insurance was created out of employment status; benefits were made available as an outcome of (and maintained dependent on) formal job relationships, together with an attendant documentation. This demonstrated considerable benefits for the employees in the formal sector, but majority of the workers in the rural sectors or urban informal segment were excluded. In the absence of formal registered employment in official companies, these workers, including those in abject poverty were removed by the “nascent social insurance system”. In the early 1980s, social assistance as a form of healthcare in Latin America constituted exclusively almost all the various forms of product and services subsidies, which primarily pertained to foodstuff such as sugar, rice, bread, milk; and energy (fuel) produce like kerosene and gas. There were small direct feeding programmes or few transfer programmes for the defined vulnerable categories like the disabled. For instance, feeding programmes comprised the Brazilian *Programa Nacional de Alimentação e Nutrição (PRONAN)* (see Instituto Nacional de Alimentação e Nutrição, 1976) or supplementary feeding program for young children in Costa Rica and

Guatemala (Beaton & Ghassemi, 1982). Eventually, it was merely after the 1980s credit crunch crisis that couples of Latin American governments began to consider in broad “safety nets”, meant to “poverty alleviation” more generally.

One pioneer country was Chile, which introduced a *workfare program* called *Programa de Empleo Mínimo* to offer temporary job for the unskilled (low income) employees in the early 1980s. At the peak of this, the other public work programmes persevered in *Programa de Empleo Mínimo* offered at least 13 percent of the Chilean labor force (Lustig, 2000). This positive outcome motivated Argentina in the 1990s to adopt workfare programme and most recent ones in other Latin American countries like Peru and Colombia. In the early 1990s, as the continent of Southern America began to recover from its 1980s lengthy recessions, many countries also began institutionalizing the a new set of programmes that are known as the *Fondo de Inversion Social de Emergencia (FISE)* in Ecuador, which funded in array small infrastructure (income)-generating projects recommended by the poor indigenous communities and societies. Two dimensional aspects made the funds rather more inventive in the social assistance programmes in Latin America, including the decentralization of decision-making and reliance on community-level structures for execution of projects. The funded projects ranged from constructing additional classrooms in local schools, performing road maintenance works, digging latrines for the household poor, generally intended to create and update small-scale socio-economic infrastructure, whereas simultaneously creating jobs at the various local levels.

Now some social investment funds are acknowledged as Latin America precursors to wipe out “community-driven development” projects that have swallowed the developing regions. Assessments of these funded projects have universally been found to have been successful in impacting the poor communities, and as such contributed to the construction of required basic

infrastructure on: Bolivia's Social Investment Fund (Newman, Pradhan, Rawlings, Ridder, Coa & Evia, 2002); Jamaica's Social Investment Fund (Rao & Ibañez, 2005); Nicaragua's Emergency Social Investment Fund (Pradhan & Rawlings, 2002); Peru's FONCODES (Paxson & Schady, 2002). Their accomplishment is an indication that albeit initially aimed as temporary mechanisms for crisis-relief, many of these funds consequentially ended up being permanent fixtures in their various countries. As known, in most situations, crisis receded and other transferal instruments were created (introduced). Their functions and purpose gradually changed from a social support mechanism to a more public works duties towards the attainment of municipal and local development rationale.

2.3 Global view on the implementation of SHP interventions.

2.3.1 United Kingdom (UK)

2.3.1.1 Brief History of SHP in UK

Healthcare in the United Kingdom (UK) is dominated by the National Health Service (NHS), which was established in 1946 to provide universal healthcare, largely free, to the entire population at the point of clinical need. (National Health Service Act 1946). Grosios, Gahan and Burbidge (2010) reported that, NHS in the UK has advanced to become one of the biggest in the world.

Before this, only people who could pass a means test were provided with healthcare. There was also a health insurance scheme to a small number of workers, but with limited medical services coverage. The dependents of employed persons had no formal health protection and had to use medicines they purchased from the local pharmacist. Appleby (1992) also noted that, there were also some charitable hospitals offering fragmented medical care to the poor. As a result, families across UK were facing financial challenges for their health services. To address this concern, the NHS was established, and funded mainly by taxes and national insurance contributions (Grosios

et al., 2010).

The NHS involves of a chain of publicly funded healthcare systems including the NHS systems in England, Scotland, Wales and Health and Social Care in Northern Ireland. The national healthcare system provides a comprehensive range of healthcare services to majority of UK citizens. These include primary healthcare, secondary healthcare and tertiary healthcare services, through specialist hospitals. The system, jointly with local authorities, also provides community health care services.

To address the numerous challenges confronting the tripartite healthcare delivery system formed under the system, a drastic step was made in 1974 to allow local authorities to support all three areas of care. In 1980 the management system for the NHS was also restructured. The NHS and Community Care Act was also passed in 1990. Thus independent Trusts were set up to manage hospitals care. Reviews were also established to support little medical expenses and time wasted by patient (Bennett, 2004; Stanley, 2012).

Nonetheless, the NHS remains to date a health system that universally provides healthcare for all citizens on the basis of their clinical needs, and not ability to pay although it has faced numerous political and organizational changes.

2.3.1.2 Healthcare Models

The first healthcare model for the NHS was developed in 1948. The model introduced financial arrangements for NHS and the mode of service delivery. National insurance and tax contributions paid by the self-employed, employees and employers was used to fund the NHS. All healthcare services were to be provided free of charge to every person, according to their clinical need.

The second model was also developed between 1951 and 1952. Out-of-pocket payments was introduced for dental care and prescriptions. Under this model, countless citizens were exempt

from charges, including under 18 years in full-time education, the aged above 60 years, new and expectant mothers, and citizens on welfare benefits. Nevertheless, it is worthy to note that these days' prescription charges apply only in England since they have been abolished in Wales (2007), Northern Ireland (2010) and Scotland (2011).

The Health and Social Care Act (2012) also takes away the duty for pricing from the DoH to NHS England and NHS Improvement. Again, the management of health system in Northern Ireland, Scotland and Wales was delegated to the Northern Ireland Assembly, the Scottish Government and the Welsh Assembly Government individually.

Another model for the NHS was designed between 2015 and 2017. In April 2015 the rules were simplified since new *charging regulations* introduced who is chargeable (DoH- Strategy & External Relations Directorate, 2015). Again, from April 2017, visitors and migrants who were entitled to an exemption from charge for NHS services under Immigration health surcharge arrangements were no longer receiving free NHS.

2.3.1.3 Access

Though UK offers affordable public healthcare to all residents via the NHS to ensure equitable access to healthcare service, citizens have the choice to buy health insurance from private vendors. The NHS remains free at the point of use for all the 64.6 million people in the UK. However, some charges, such as prescriptions, optical and dental services are not free. As Chang, Peysakhovich, Wang and Zhu (2015) reported, the system provides equal rights and information for patients on available hospitals and their bed capacity, doctors and nurses available at facilities, appointments times, services available for older patients, and standards for NHS organizations. Foubister, Thomson, Mossialos and McGuire (2006) in their findings publicized that since the early 1990s, about 11.5% of the UK population have had some form of Private medical insurance cover though

the NHS provides the majority of healthcare. Similarly, both the Guardian (2015) and LaingBuisson (2015) also revealed that the demand for private medical insurance cover in the UK rose by 2.1% in 2015 to reach 4 million, following horizontal demand from 2012 to 2014.

2.3.1.4 Financing

Healthcare expenditure in the UK has been broken down into public and private expenditure. Public expenditure is primarily used to finance the NHS whilst private expenditure is the expenses made by households, and the corporate sector on healthcare (including dentistry and over-the-counter medicines) (Propper, 2001).

In 2014, the total public healthcare expenditure in the UK was £178.6 billion. This accounted for 9.1 percent of gross domestic product (GDP). In relative terms, the 9.1 percent of gross domestic product (GDP) in 2014 is greater than the average among Sub-Sahara Africa (6.7 percent), but below that of the Organisation for Economic Co-operation and Development (OECD) members (12.3 percent) (World Health Organization [WHO], 2014). Thus, the UK's NHS remains a tax-based financed health care system. Nevertheless, most NHS facilities services are provided freely and according to people's clinical need except for certain services such as dental care, home-help and sight test.

On the other hand, the private healthcare expenditure basically comes from three main source. These include (a) the working class together with their families who mainly purchase elective treatment either by employer-based or privately purchased; (b) the aged, who require both clinical and social care support, either in their homes or nursing homes; and (c) persons who need palliative care and AIDS/HIV treatment. World Health Organization (2014) statistics shows that private healthcare expenditure in the UK was 1 percent of gross domestic product (GDP) in 1995 and 1.5 percent in 2014.

2.3.1.5 Challenges

The NHS is facing severe challenges, with trusts across the country spending more on healthcare service delivery. Both the UK's population and average life expectancy have increased since the founding of the NHS in 1948, and this also puts a huge strain on the system. For instance, UK's population estimated in 2014 was 62.8 million, and continues growing. The average life expectancy for a newborn baby boy between 2012 and 2014 was 79.1 years (up from 71 in 1980 to 1982), and a newborn baby girl was 83.8 years (up from 77 in 1980/2). 65 year-old men also have 18.4 years of life remaining and women 20.9 years respectively (National Life Tables, United Kingdom: 2012–2014).

Again, the elderly population has been the fastest growing age group in the UK and this is increasing pressure on the NHS. For instance, the aged 65 and above form about 18 percent of the UK growing population (UK, National Statistics, 2017). This growing phenomenon, however, has brought change of focus to preventive care rather than curative care, and the need to ensure that the NHS benefits from new and innovative technologies.

Again, the risks of delaying a comprehensive health policy to manage the ageing also put increasing pressure on the NHS. In 2014 for instance, the average NHS expenditure for retiree households was double to that of non-retiree households. The Department of Health, UK also estimates three times more expenditure was spent on older persons over 85 years than those older persons between 65-74 years. Longer retirement periods among the aged have increased the level of poverty, especially amongst those pensioners who cannot contribute to occupational schemes. Women are particularly vulnerable to this situation.

Adding to the above mentioned facts, growing healthcare needs, such as the increase in cases of obesity and diabetes, or antibiotic resistance and new medical technologies also put huge draining

on the system every year. For instance, UK's Independent fact checking charity (2017) estimated that advancement in medical technology has costs the NHS at least an extra £10 billion per year.

2.3.2 Brazil

2.3.2.1 Brief History of SHP in Brazil

According to Modesto, Costa and Bahia (2007), amongst the main values established in Brazil's Constitution of 1988 is the right of all people to health, and the duty of the Government to guarantee universal and fair access to essential health services; and activities which promote, protect, and restore health. WHO report (1988) showed that half of Brazil's population had no access to health care (incited in WHO, 2010).

To address the issue of decline in access to healthcare, the Unified Health System (Sistema Unico de Saude -SUS) was set up in 1990 as an SHP system for all Brazilians, to provide holistic health delivery in a decentralized structures and hierarchical network, with single management in each governmental area (Buss & Gadelha, 1996; da Silva, Viana, & Yi, 2015; Modesto et al., 2007). This established healthcare system was grounded on three core principles which are universality, integrality, and equity (Gragnolati et al., 2013; Victora, Barreto, Leal, & Monteiro, 2011); and with decentralized structures, the municipalities provide free health care to all citizens (WHO, 2008). According to Paim, Travassos, Almeida, Bahia and Macinko (2011), taxes and social contributions like social security payments funded the system (SUS). Thus, apart from offering free primary healthcare at the point of service, mostly through the Family Health Programme, the SUS provides a wide range of healthcare services at various health service delivery points, including cardiac surgery, sophisticated medical imaging (positron emission tomography (PET) and magnetic resonance imaging (MRI) and laboratory diagnostics. According to WHO (2010), a vaccination programme, preventive campaigns, basic dental care and subsidization of essential

medicines also support the system.

Participation in the health delivery system by individuals and organizations was encouraged by the state. Victora et al. (2011) stated that this was institutionalized by the 1988 constitution and regulated further in a 1990 legislation which established the national health councils and conferences at three levels of government. Nevertheless, the central administration had the power to determine how such supportive roles were executed (Viana, da Silva, & Yi, 2005).

2.3.2.2 Healthcare Models

The first healthcare model was the decentralization of the healthcare system. This decentralization approach was especially strengthened by the Cardoso government between 1995 and 2002. As noted by Souza (2002), the approach reflects both different financial functions and administrative capabilities for health service provisions and institutional arrangements for governors and mayors which sought to reduce the role of the government significantly in favour of the market. Hence, the public healthcare system was regionalized and expanded. Nevertheless, the problems of divisions and disorganization of services at the various health facilities continued, with thousands of isolated local systems (Dourado & Elias 2011; Viana, Lima, & Ferreira, 2010).

Another important healthcare model was the development, adaptation, and rapid scaling up of a Family Health Programme in 1994. This programme became the primary health care strategy that provide health care services to families to improve their health status.

The establishment of the Pact for Health in 2006 is another healthcare model introduced. The Pact reaffirmed regionalization management structures that promote efficient and effective health care systems at the regional levels. It also established Regional Management Boards (RMB) in each region (Brazil, 2009) which became a permanent institutional structure for intergovernmental negotiation and decision-making. Nonetheless, successful implementation of the policy depended

on hard negotiation and allocation of complex responsibilities (Vargas, Mogollón-Pérez, Unger, da-Silva, De Paepe, & Vazquez, 2015).

To ensure universal care within the Sistema Unico de Saude -SUS, a stable and sufficient funding was necessary. The Provisional Contribution on Financial Transactions (CPMF) which is a social contribution was designed in 1996 as health model with the purpose to generate funding for healthcare services delivery. However, in the implementation of the financial arrangement, the CPMF funds was rather used for other expenses by the federal government, especially interest payments on the national debt, and welfare and social assistance programs. Therefore, in 2007 the CPMF fund was dissolved.

Another model introduced into the system in 2000 was the approval of the provisions made in the Constitutional Amendment 29 (EC29). These provisions proved to be effective in helping the government secure and expand fiscal space, as they established minimum resources to be allocated by the three arms of government to finance procedures; typically, the transfers of SUS resources from the federal to sub-national governments.

Additional model introduced into the system was the adoption of the interventions to increase domestic production of health commodities such as drugs, vaccines, medical devices, blood products etc. These interventions became the apparatus for the regulation of health science, technology and innovative procedures, and public-private relations. The procurement and financing mechanisms of the Brazilian Development Bank (BNDES) and the Funding Authority for Studies and Projects (FINEP) are some examples of these instruments.

2.3.2.3 Access

In terms of access, the health system which comprises networks of primary healthcare providers provide a range of healthcare services to the majority of the population. According to a publication

by Deloitte (2015), three-quarters of Brazil's 202 million population depend on free care from Unified Health System (SUS), and the remaining 25 percent of the population is enrolled in private health plans (Deloitte, 2015). Thus, a total of 151.5 million Brazilian population rely exclusively on the SUS.

Again, the institutional arrangement of the SUS is categorized by the division of clients and multiple relations between the public and private sectors which has culminated in the creation of a substantial private healthcare market. Thus, access to healthcare is also provided by a large number of private insurance companies that operate healthcare plans with differing benefit packages and pricing. These private companies apply a number of legal and institutional frameworks which categorizes clientele into diverse groups in line with their requirements. For instance, the nature of services offered (medical, dental etc.), the kind of clientele (closed or open groups), relationships formed with healthcare institutions (health professionals and facilities), or even the size of the companies (da Silva et al., 2015). According to Paim et al. (2011), the proportion of the Brazilian population covered by private insurance has remained at around 20% – 25%. However, the authors maintained that the number of Brazilians with private insurance has risen by more than 6 million from 2002 to 2008.

2.3.2.4 Financing

Health spending in Brazil was 8.3 percent of the gross domestic product (GDP) in 2014, lower than the value of 8.65 percent in 2009, but higher than the value of 6.51 percent in 1995 (World Health Organization [WHO], 2014). In comparative terms, the national health spending of 8.3 percent of gross domestic product (GDP) in 2014, was greater than the average among Latin America & Caribbean (7.2 percent), but below that of OECD members (12.3 percent) (World Health Organization [WHO], 2014). On the other hand, only 46.0 percent of the whole amount

comes from governmental funds provided for the SUS. The 46.0 percent is below the value of 47.02 percent in 2004, but greater than the value of 40.26 percent in 1996 (World Health Organization [WHO], 2014).

Private health expenditure included OOPHEs by households spending, purchase of private health insurance by individuals, charitable donations to health facilities, and direct service payments by private corporations. According to WHO (2014) statistical report, this constituted 4.5 percent of gross domestic product (GDP) in 2014, higher than the value of 4.86 percent in 2006, but lower than the value of 3.71 percent in 1995 (World Health Organization [WHO], 2014). Out-of-pocket expenditures on the total health expenditure on the other hand constituted 25.5 percent in 2014 (World Health Organization [WHO], 2014).

Obviously, pattern of healthcare financing in Brazil is characterized by a high private healthcare funding. However, Viana et al. (2005) point out that public facilities under the Sistema Unico de Saude -SUS provide healthcare services to private schemes at a cost below market price.

2.3.2.5 Challenges

In the face of its many achievements, the SUS system is under financed. For instance, less than half of the amount of the Brazil's health spending comes from public sources. Again, though the total health spending in Brazil is about 9% of GDP, this is similar to the average health spending of the Organization for Economic Cooperation and Development (OECD) countries. Again, insufficient number of health care professionals, and their poor distribution and availability across the country has been another challenge. Though the municipalities implement the health interventions, there are variations in the capacity and quality of the health management teams (HMTs), including staffing patterns, professionalism and management capabilities, as well as other institutional supports for the health management teams. These tasks posed organizational

challenge to the SUS system. According to Macinko and Harris (2015), the country for instance, had to respond to these tasks with the implementation of the Mais Médicos (More Doctors) program which has resulted in the importation of nearly 15,000 physicians from Cuba and other countries.

Similar to other health systems, SUS is struggling to realize its universal health care priorities, and to fulfill the constitutional mandate upon which the system was established to achieve equal access to health services for all citizens. The FHP program has reached many poorest households within the municipalities, and helped improve health equity. Nonetheless, a great part of the SUS system resources is destined to one-third (1/3) of the population who use supplemented healthcare system service (Monteiro de Andrade, 2012).

Another challenge of the SUS system is the lack of active social participation at all levels. Citizens need to be more engaged in the political aspect of the SUS than see it as a “government’s social health protection priority”.

Finally, low production capacity of essential medical products such as drugs, vaccines and technologies have severely affected the implementation of some SUS programmes, for example, new developments in the Electronic Health Records (EHR) systems to track conditions managed by primary care practices that are important to public healthcare delivery.

2.3.3 China

2.3.3.1 Brief History of SHP in China

The healthcare system that the Chinese Communist Party established in 1949 was typical of communist states. According to Hsiao, Li and Zhang (2014), the state officials determined access to health care rather than the local government officials. The authors further asserted that there is no longer private practice of medicine and ownership of health facilities.

The Rural Co-operative Medical Scheme (RCMS) was established as a three-tier system for rural health care access from the 1950s to the early 1980s. After embarking on economic reform in 1978, and the collapse of the People's Commune System in the early 1980s, China was not able to continue the implementation of RCMS. The reform decentralized China's health system and shifted public financing to private sources (Hsiao et al., 2014).

One of China's health priorities is to achieve universal health coverage (UHC) to ensure that all citizens receive needed quality healthcare without any financial burden. The reform therefore led to the establishment of three government medical insurance systems. These public medical insurance systems have made significant efforts to promote access to healthcare in China since the late 1990s (Chen, Zhang, Renzaho, Zhou, Zhang, & Ling, 2017; Doetinchem, Carrin, & Evans, 2010; WHO, 2015).

The first SHI introduced in China was the Urban Employee-Based Basic Medical Insurance (UEBMI) in 1998 for workers. Again, in 2003, the New Rural Cooperative Medical Scheme (NCMS), which is a form of community-based health insurance, was established and offered cover to rural inhabitants. According to Zhu, Zhang, Yuan and Tian (2016), by 2007 almost all rural counties which had voluntary enrolment were covered by NCMS. The authors further asserted that rural inhabitants who had voluntary enrolment and were covered by NCMS were more than 85%. Later, in 2007, the Urban Resident-Based Basic Medical Insurance (URBMI) scheme which covered urban residents who were not covered by the UEBMI was piloted and then scaled up across China. According to Meng and Tang (2013), urban employers and employees' premiums mainly finance the UEBMI. Meng and Tang (2013) further state that the NCMS and URBMI are largely sponsored by the local government,

2.3.3.2 Social Protection Strategies

The first strategy was the establishment of NCMS in 2003. In order to ease the effect of financial incapability among the rural poor and to tap into the achievements of the RCMS, the Chinese Government introduced the new cooperative medical scheme (NCMS) to promote parity in access to healthcare, and financial coverage to rural residents. In addition to this was the official declaration of “equitable access” by the State Council, to be the principal aim of the rural health insurance reform.

The second strategy was the issuance of “Opinion on the integration of basic medical insurance systems between urban and rural residents” (citation) in January 2016 by the State Council of China. The directive required that URBMI and NCMS should be integrated on the basis of coverage, financing policy, benefit packages, lists of drugs and services, contract suppliers and fund management (State Council Report, 2016). State Council Report (2016) and Zhu et al., (2017) emphasized that the objective of the directive was to avoid overlap in NCMS and URBMI coverage; improve the equity, sustainability and efficiency of both programmes; and advance the development of universal health coverage (UHC).

Another strategy is the development of a national NCMS online reimbursement system. According to Chen et al. (2017), the system allows NCMS enrollees to receive reimbursements on a real-time basis in designated hospitals across regions in 2020.

2.3.3.3 Access to Healthcare

The 2012 Report on the Work of the Chinese Government indicates that the NCMS had covered 832 million rural inhabitants in 2011, or 97.5% of Chinese farmers by 2012. Conversely, by 2015 the number covered by the scheme had decreased to 670 million rural residents (China Social Security yearbook, 2008–2015; Zhu et al., 2016; Zhu et al, 2017). Zhu et al., (2017) also revealed

that since 2008 the number of enrollees of URBMI have increased from 118.26 million to 376.89 million in 2015.

2.3.3.4 Pooling fund and Financing mechanism

China's health spending was 3.1 percent of gross domestic product (GDP) in 2014, higher than the value of 1.8 percent in 1995 (World Health Organization [WHO], 2014). In comparative terms, China's health spending of 3.1 percent of gross domestic product (GDP) in 2014 was below that of the United Kingdom (9.1 percent) and Brazil (8.3 percent) (World Health Organization [WHO], 2014). On the other hand, only 55.8 percent of the whole amount comes from the governmental funds.

In terms of financial arrangements, the premium for both URBMI and NCMS is to be largely subsidized by the government and local governments. According to National Bureau of Statistics of China (2016), the contribution of the government for URBMI has increased since 2008 from 28.11% to 32.28% in 2015, but the contribution of local governments has decreased from 71.89% to 67.79% in 2015. Again, the percentage of that which come from individual contributions for URBMI's pooling fund in 2014 was 20.78%, but increased to 21.75% in 2015. However, the highest percentage recorded was 45.00% in 2008 (National Bureau of Statistics of China (CBS), 2016). This therefore flaws the policy requirement that families act as the key contributors to the URBMI fund.

In the case of NCMS, the contribution of the government according to National Bureau of Statistics of China (2016) has also increased since 2008 from 37.67% to 52.22% in 2015 but the contribution of local governments has decreased from 62.33% to 42.78 % in 2015. Yet again, the percentage that come from individual contributions for NCMS's pooling fund was 17.69 % in 2014, but also

increased to 19.25% in 2015. Yet, the highest percentage was 20.56% in 2009 (National Bureau of Statistics of China (CBS), 2016).

2.3.3.5 Challenges

The NCMS has not achieved its intended primary objective as envisaged. The NCMS, through a fee-for-service reimbursement provided health care in public health facilities. But the reimbursement rates differed by types of care and the health facilities involved. Further, the NCMS only reimburses drugs listed on the National Essential Drug Reimbursement List (NEDRL). All these have negative significant effect on the financial situations of the rural poor who according to Babiarz (2012) have severe illness and high medical expenditures.

The impact of the NCMS on the financial burden of healthcare is thus seen to be inconsistent. Co-payments for the NCMS enrollees in general were above normal, indicating huge deductibles, low ceilings, and increased coinsurance interest levels; and this therefore reduced access of services among low earning rural families, and perhaps the lack of interest to even enrol. Wagstaff et al. (2008) found that families use medical services more frequently than they otherwise would under NCMS coverage and as a result, their OOP expenditure increases.

Disparities in health status between regions, urban and rural areas, and among population groups is another challenge encountered following the implementation of the three government medical insurance schemes. These disparities can be attributed in part to differences in the coverage provided by these schemes.

2.4 Lessons for Ghana

A critical look at the implementation of SHP interventions in these countries indicates that subscription among poor households in China is greater as compared with the situation in the UK

and Brazil. Zhu et al. (2017) showed that by 2015 the number of enrollees of URBMI was 376.89 million, and the NCMS had covered 670 million rural residents. The NHS in the UK also remains free at the point of use for all 64.6 million residents in the UK though changes in UK's population dynamics and improved health outcomes put much pressure on government's spending on the system. In the case of Brazil, a total of 151.5 million population rely exclusively on the SUS (Deloitte, 2015). Yet, industries' inability to produce maximally in relation to their essential medical products, vaccines and technologies have rigorously affected the expansion of the SUS system.

Again, a gaze at government's spending on public healthcare systems identified among the three selected countries, UK government spends more on its health system as compared to Brazil and China. In 2014 for example, UK government spent 9.1 percent of gross domestic product (GDP) on public healthcare as related to 8.3 percent for Brazil government and 3.1 percent for China's government (World Health Organization [WHO], 2014). Nonetheless, the United Kingdom's NHS appears to have stringent measures and policies governing the system as compared to the SUS system in Brazil and the three government medical insurance system (UEBMI, NCMS and URBMI) in China. Ever since the NHS's transformation in 2013, the NHS payment system has been backed by legislation. The Health & Social Care Act, 2012 for instance has taken responsibility for pricing from the DoH to NHS England and NHS Improvement.

Though the annual records of NHIA shows an increasing NHIS enrolment rate in Ghana, as at 2012, NHIS enrolment rate stood just at 36.8% of 24,658,823 population (Awoonor-Williams et al., 2016; Ghana Statistical Service, 2012; Ministry of Health, 2014). This accounted for 9,074,447 enrollees of NHIS of which more than 60% of active members of the NHIS are within the premium exemption category - children under 18 years, aged 70 years and above; pregnant women, LEAP

beneficiaries (Alhassan, Nketiah-Amponsah, & Arhinful, 2016). Kotoh and van der Geest (2016) on the evidence of a study also established that the poorest were the least covered (17.6 percent) (Kotoh & van der Geest, 2016).

According to the Ministry of Health (2014), Ghana's total expenditure on health as a percentage of its GDP was 5.4% in 2013 (World Bank, 2015). Also, 10.6% of total government expenditure budget is allocated by government of Ghana (GoG). Alhassan et al. (2016), reported that in 2012, over 70% of the NHIS financial inflows emanated from the National Health Insurance Levy (NHIL); 17.4% from SSNIT contributions and 4.5% from premium payments. Contribution by government, grants, donations, gifts, voluntary contributions, and interests accrued from investments served as other sources of funding.

Ghana could greatly emulate the seeming implementation approach of the UK's NHS with regard to its time tested policies and procedures that have anchored the National Health Schemes over the years, particularly the improvements on government's total expenditure on health as a percentage of its GDP. Again, with reference to Brazil's private sector huge financial injection into the health sector, Ghana could do well to collaborate or develop means of generating more funds to enable the NHIS cover many more for optimum Social health protection.

The NHIA together with all relevant stakeholders including government of Ghana should adopt pragmatic healthcare models as exemplified by UK, Brazil and China, and strengthen policies that govern the implementation of the NHIS in order to expand coverage of the system. The Government of Ghana should also endeavour to subsidize significantly the cost of healthcare under the program and guarantee that the intervention covers other types of healthcare.

2.5 A view of Africa on the implementation of SHP interventions

2.5.1 Kenya

2.5.1.1 Brief History of SHP in Kenya

Health Insurance Scheme for all Kenyan citizens started in the 1960s. In 1966, the government established a National Hospital Insurance Fund (NHIF) by an Act of Parliament to provide access to quality and affordable healthcare for all Kenyans.

At inception, NHIF membership was mandatory for all formal sector employees and civil servants, covering their inpatient services, as well as private sector employees earning a monthly salary of 1,000 Kenya Shillings (KES) and more (GoK, 2004). Abuya, Maina and Chuma (2015) and Muiya and Kamau (2015), emphasized that the scheme which has gradually undergone a series of health financing policy changes is a predominantly tax-funded healthcare system, since the inception of its implementation. Through the payroll system, premium contributions are calculated on a graduated scale based on income, and deducted automatically.

Health services delivery under the scheme has been awkwardly criticized for poor quality and unaffordable to majority of Kenyans; a burdensome claiming process and operational activities of the scheme located in the cities where the minority of the population live (IPAR, 2005; MoH, 2004). High poverty levels among Kenyan citizens have also impacted negatively on the scheme. To address some of the challenges associated with the NHIF, the country is presently considering establishing a National Health Insurance Scheme (NHIS), which will transform the previous NHIF to cover all citizens, for both outpatient and inpatient services irrespective of their ability to pay. The reforms are envisaged to turn the NHIF into an NHIS.

In May 2002, an inter-sectoral taskforce was put in place to formulate a national approach and legalization of Kenya's NHIS (Abuya et al., 2015). The NHIS proposal, developed in 2004/2005,

drew much attention both locally and internationally, despite its resistance by various stakeholders. The bill for the establishment of NHIS was tabled in parliament in July, 2004, but did not receive presidential assent. Technical design, affordability, implementation and sustainability were sited as problems for the presidential decline to assent to the bill. Again, in 2007 the discussions on the process of establishing of the NHIS were initiated again. A draft health financing strategy was also developed in 2009 to guide the country. Unfortunately, the adoption of NHIS in Kenya still remains uncertain.

2.5.1.2 Efforts to enhance the coverage of the NHIF

In 1972, voluntary membership in NHIF was opened to the informal sector workers. Informal sector enrollees pay monthly insurance contributions through M-Pesa money transfer platform to cover their nuclear families. This enabled NHIF to extend health services to them; but as of 2005, only about half a million people were estimated to be covered through this mechanism (Abuya et al., 2015).

Again, relevant laws were annulled and replaced by the NHIF Act No. 9 of 1998. This according to Kamau and Holst (2008) led to the transformation of the Fund into an autonomous State Corporation managed by a Board of Management. This Act also provided for the contributions to and the payment of benefits out of the Fund.

Another effort was the promulgation of the new Constitution of Kenya (2010). Chapter four of the Bill of Rights states in Article 43(1a) states that “*every person has the right to the highest attainable standard of health, which includes the right to health care services, including reproductive health care*”; and in Article 43(2) that “*a person shall not be denied emergency medical treatment*”. These provisions within the constitution assigned the greater portion of delivery of health services to counties. Thus, counties bear complete responsibility for planning,

financing, coordinating delivery and monitoring of health services toward the fulfilment of “right to health”.

In early 2012, NHIF again implemented a new scheme to provide outpatient coverage to members and their beneficiaries in addition to the inpatient hospital cover it has long provided. Githinji (2016) noted that the outpatient care covers preventive and curative services which also includes medicines and chronic illness management.

Another effort that enhanced the coverage of the NHIF was that members and their beneficiaries were able to access inpatient services at government health care facilities and private or non-profit facilities that are accredited by the NHIF (Mathauer, 2011).

2.5.1.3 Access

Three tiers of hospitals make up the NHIF’s hospital network has. At “Contract A” hospitals, which is made up of primarily government hospitals, NHIF beneficiaries receive comprehensive cover with no overall limit on the amount of benefits they receive. NHIF coverage levels have reached 4.5 million people (11% of the Kenyan population), yet the coverage of the informal sector workers still remains low (16%) (USAID, 2014). In 2015 the contributing members of NHIF was 5.2 million, of which informal sector workers formed only 39 percent (Ng’ethe, 2016).

Additionally, Waelkens (2004) underlined that a specific fund was set up by Médecins sans Frontières to cover the social needs of the people affected with Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome (HIV/AIDS) that were admitted in its programme. The initiative (specific fund) was to provide an all-inclusive care programme for persons with AIDS that covered medical, nursing, psychological and social care.

2.5.1.4 Finance

In terms of the overall health insurance budget, Kenya spent 3.5 percent of its gross domestic product (GDP) on health in 2014. This is higher compared with the other countries in sub-Saharan Africa, which average 2.3 percent. However, it is well below the Organization for Economic Development and Cooperation (OECD) countries' average of 7.7 percent (World Health Organization [WHO], 2014). In 2015 for example, the government of Kenya supported care of the elderly poor under the NHIF with Ksh190 million (\$1.97 million) through a funding by the World Bank under the Health Insurance Subsidy Programme (HISP) (Anyanzwa, 2014).

2.5.1.5 Challenges

Inadequate funding has been one of the challenges the NHIF faces. The government of Kenya provides healthcare cover through the NHIF, but limited funding by the government to the NHIF means that majority of the population are not covered by the scheme. According to Wamai (2009) health cost remains the greatest barrier to healthcare in Kenya. Thereby, many Kenyans continue to have no access to, or cannot afford to pay for their healthcare needs. Out-of-pocket payments therefore remain a key source of funding for healthcare, and ultimately this negatively affects equity in access to healthcare for the majority of the Kenyan population who are poor. The NHIF programme even with a drive and effort to enrol informal sector workers, Kenya's unemployment rate of 39.1 percent as at 2015 pose a major threat. (HDI, 2017).

Another challenge is the integration of the systems and bottlenecks. The delays in the integration of the M-Pesa payment platform used by the informal sector workers for the NHIF payment, and information technology systems in many instances have resulted in the inability of members and their beneficiaries to access health services.

2.5.2 Uganda

2.5.2.1 *Brief History of SHP in Uganda.*

The 1995 Constitution of Uganda emphasizes that “the state shall take all practical measures to ensure the provision of basic medical services to the population”. In 1996, the first Community-based Hospital Fund (CBHF) scheme was set up in Kisiizi hospital, Rukungiri district of Uganda, after which other schemes were also established. Majority of these schemes were facility-based schemes, and were started jointly by the Ministry of Health (MoH) and various donor partners (DPs) due to severe budget constraints and related difficulties in providing adequate hospital services (Zikusooka & Kyomuhangi, 2008). These established schemes had varying levels of success, but eventually started facing severe challenges as a result of the removal of user-fees from all public health facilities. This could be termed as a “publicly provided health insurance” financed by taxes and other sources of government revenue (Basaza, Criel, & Van der Stuyft, 2010). Nevertheless, Orem and Zikusooka (2010) in their study showed that about 34 percent of the population in rural areas of the country and 61percent in the northern part of Uganda live below the poverty line. This population group that formed over 51.1% of the poorest households in Uganda use government health facilities as compared to 21.9% for the non-poor households (Uganda Bureau of Statistics [UBOS], 2014). Likewise, a report from Uganda Health System Assessment (2011) also revealed that majority of these poorest households in Uganda have been pushed into impoverishment because of out -of -pocket expenditure.

In response to these issues, the Government of Uganda (GoU) through the Health Sector Strategic Plan I (2000/1-2004/5) and Plan II (2005/6-2009/10) emphasized the need for the development of alternative health financing mechanisms among which is SHI (UCBHFA, 2013/14 – 2017/18).

In 2001 a feasibility study conducted recommended that Uganda follows a plan of starting up SHI

gradually, by initially covering only public servants and their beneficiaries, workers and employees of large companies and their families, and then the workers of the in-formal sector (Orem & Zikusooka, 2010).

In 2006, the Government of Uganda tasked the MoH to design a National Health Insurance Scheme (NHIS) through a cabinet minute. According to Zikusooka and Kyomuhangi (2008) a national task force of stakeholders was formed by the Ministry including Ministry of Finance, Ministry of Labour and Gender, Ministry of Public Service, Trade Unions, Federation of Uganda Employers, and the Uganda Community Based Health Financing Association to spearhead the drafting of the bill and design issues. Almost all in-patient and out-patient services delivered within Uganda were to be covered by the NHIS.

Unfortunately, the introduction of the NHIS in Uganda has delayed due to disagreements among the stakeholders, particularly the government, Federation of Uganda Employees (FUE) and Uganda Insurers Association (UIA). The private health stakeholders are lobbying and advocating for some adjustments over a section of clauses in the NHIS bill. Employers for instance, have disputed that paying for their employees' health insurance, in addition to the existing costs of paying 10 percent contribution to National Social Security Fund (NSSF) for their staff per month, will increase their cost of operations in the country. Therefore, in its place, they prefer that the government deducts 1% or 2% of the employee contribution to the NSSF towards the scheme.

2.5.2.2 Access

There are differences in access to the different levels of health facilities in Uganda, but to improve access to healthcare, government decided to increase the number of public health facilities by 16.4 percent from 2,301 in 2006 to 2,679 in 2011 (Lukwago, 2016). Institute for Health Metrics and Evaluation (2014) also indicated in their work that between 2007 and 2011, trends in outpatient

and inpatient visits across Uganda increased by 11 percent and 4 percent respectively. However, private health insurance schemes which covered employees and their dependents of corporate organizations provide access to less than 1% of the population in key urban areas, especially Kampala) (Zikusooka, Kyomuhangi, Orem, & Tumwine, 2009; Zikusooka & Kyomuhangi, 2007).

2.5.2.3 Financing

Public health expenditure of Uganda as a percentage of total health expenditure was 71.2 percent in 2014, compared to that of Kenya (61.3 percent), Ghana (59.8 percent), and the average of Sub-Saharan Africa (42.6 percent). Thus, public health expenditure translated into only 1.8 percent of gross domestic product (GDP) in 2014 (World Health Organization [WHO], 2014). In absolute terms, government budget allocation to the health sector increased from UGX 660 billion in 2010/11 to UGX1,271 billion in 2015/16; mainly allocated to MoH headquarters, Local Government health services (LG health services), and National Medical Stores (Lukwago, 2016). Nonetheless, in Uganda, OOP from the households was a major source of health financing (49%) followed by donor partners (35%), and then government (15%). NGOs contribute less than 1% (Orem & Zikusooka, 2010; WHO, 2010; Zikusooka et al., 2009). The Government's contribution according to Zikusooka et al. (2009) includes central government funds (from taxes), local government funds, and donors'/development partners fund channeled through general budget support.

2.5.2.4 Challenges

Financial problems over more than a decade remains the single most important constraint facing healthcare delivery in Uganda, although the Government budget allocation to the health sector has increased. Cost on healthcare stood very low at approximately US\$5 -7 per capita during 2004/05 to 2007/08 (Uganda MoH Reports). The estimated financial support regarding health between

2010/2011 to 2012/2013, indicates stagnant health program funding (Ministry of Finance Planning and Economic Development, 2008). Certainly, this was woefully inadequate to facilitate the provision of the lowest level of healthcare package amounting to US\$40 per capita (Orem & Zikusooka, 2010). Lapses in service delivery were well known with just 35% of health facilities having very important drugs all year round and an unimpressive 51% of approved care facilities had well qualified health staff (MoH, 2007). This situation was further worsened also by the fact that government directives orders that funding and staffing should not be based on population served and demand but rather level of health facility.

Again, out-of-pocket health payments continue increasing as government provided free healthcare. Households spent approximately 9% of their family expenditure on daily needs on health (Orem & Zikusooka, 2010). Twenty-eight percent (28%) of nuclear families in Uganda started to experience huge health costs of more than 10 percent of their overall household expenses despite the removal of user charges in 2001 (World Bank, 2010). Almost 50 percent of aggregate family health cost is used on medicine. The result was impoverishment of poorest households.

2.5.3 Ghana

2.5.3.1 Brief history of SHP in Ghana

Prior to the enactment of the Ghana Health Service and Teaching Hospitals Act - 1996 (Act 525) of Ghana, the Ministry of Health (MoH) was responsible for the provision of public health services delivery in the whole nation. These services included the provision of, promotion, preventive, curative and rehabilitative care to all Ghanaians. The Act, 2003 (Act 650) and National Health Insurance legal framework, 2004 (L.I. 1809) established the NHIS with the aim of removing barriers created by the previous healthcare financing systems Ghana introduced, including general

tax and donor funding, out-of-pocket health payments, community based health insurance schemes, and ultimately providing equitable access to basic healthcare services for the entire populace (Gobah & Laing, 2011; Kotoh & van der Geest, 2016).

According to Nyongato and Kutzin (1999), years before 2003, health care was funded through general taxes and donor support thus health care was free for all. According to Akazili (2010), this entirely tax funded health system tried to address some of the inequalities in healthcare delivery by developing a wide range of primary healthcare facilities across the country, promoting and strengthening preventive interventions such as immunization and antenatal care. Yevutsey and Aikins (2010) also stated that user fees were introduced in public health facilities across the country through a cost-sharing mechanism in 1969 with the enactment of the Hospital Fees Act 387 after the user-fee regime deteriorated. With this, according to Nyongato and Kutzin (1999), healthcare was provided by token fees charged for health services provided. However, this system was not able to raise needed resource for the health sector. With the low healthcare service utilization caused by the nation-wide fee-for-service, partial exemptions for health personnel, postnatal and antenatal treatment and services, among others was introduced at child welfare clinics in 1985. The user-fees and partial exemptions policy succeeded in achieving the financial objectives to some extent but still fell short of expected revenue.

In response to address the challenges, the strategy was subsequently restructured in 1992 under what has become known as the “cash and carry” system in healthcare financing. The “cash and carry” system was designed to minimize government spending on the health sector as well as limit the shortages of essential medicines and medical supplies (Health incorporated Consortium, 2014). As at 1987, 15 percent cost recovery for persistent spending had been achieved, and 81 percent of medicinal replacement costs through direct pocket payments had also been realized (Waddington

& Enyimayew, 1989). According to Frempong et al. (2009) and Kotoh and van der Geest (2016), this healthcare financing approach negatively affected access to healthcare among a huge percentage of the Ghanaian populace, notably poor and vulnerable households who do not have the financial capability to pay for medical treatment at the point of use as required by the cash and carry system. Thus, for the disadvantaged population of the country, the system resulted in inequalities in access to healthcare with its attendant poor health outcomes (Health Incorporated Consortium, 2014).

In the period 1997, the government widened the base of the exemptions policy to include children-under-five, the aged 70 years and above, and the destitute (Jehu-Appiah, Aryeetey, Spaan, De Hoop, Agyepong, & Baltussen, 2011).

These difficulties in having money to pay for cost of healthcare among poor households, and loss of revenue for most health facilities prompted the introduction of community-based health insurance schemes by the mission hospitals which was jointly managed by the facility and the community as a strategy to avoid the problems associated with out-of pocket payment (Gobah & Laing, 2011). Notwithstanding, by 2003 the scheme had covered only about 1 percent of the populace, and in most situations, antenatal care and normal services were not really provided (Atim, Grey, Apoya, Anie, & Aikins, 2001; Gobah & Laing, 2011; Sulzbach et al., 2005). Then again, the Government of Ghana in 2003 in a bid to reduce financial barriers to using maternity services in order to help decrease maternal and prenatal mortality, introduced exemptions from delivery fees in the four most deprived regions of the nation. According to USAID (2009) and Witter et al. (2007), in April 2005 this SHP initiative (exemptions from delivery fees) was extended to the remaining six regions.

Against this background, the Government of Ghana introduced the NHIS in 2003 with decentralized operations. District health insurance schemes (DHISs) were established in all districts in the country, financed by government contribution and premiums. The scheme was established to improve financial access of all citizens, especially the poor and the vulnerable, to quality basic healthcare, and to reduce out-of-pocket health expenditures at the health facility point. (Gobah & Laing, 2011; Kotoh & van der Geest, 2016). The scheme as asserted by Durairaj et al. (2010) therefore focused greatly on meeting the health needs of the poor and vulnerable, and providing SHP based on the principles of equity, solidarity, risk sharing, cross-subsidization, reinsurance and client and community ownership, value for money, good governance and transparency in the healthcare delivery.

In 2012, a new law, the NHI Act (NHIA) 852, substituted Act 650 to strengthen the NHIS by bringing in the functions of all the District Management Health Insurance Scheme (DMHI) under the NHIA to eliminate administrative shortfalls, minimize corruption chances, foster governance effectiveness and introduce transparency to the schemes (MoH-GoG, 2002). The NHIS benefits include over 95 percent of the prevalent disease conditions in the country. This comprises the universal inpatient and outpatient medical care, emergency care services, diagnostic tests, generic medicines, oral health and sight care, essential drugs and shared accommodation, and intensive care delivery (Owusu, 2010; Universal Access to Health Care Campaign Coalition, 2013). Under Act 852, the household ‘planning commodities and services’ were added to the beneficial package. Nonetheless, extremely expensive treatments like dialysis for chronic renal failure, organ transplants, and unlisted expensive drugs like HIV retroviral drugs are not funded by the scheme (Blanchet, Fink & Osei-Akoto, 2012; NHIA, 2008).

Based on the NHIA 2003 (Act 650), except the Police Service and the Armed Forces of Ghana, every individual resident in Ghana is required to partake in any health protection programme. As a result, the whole country's population is targeted by the NHIA. Although, the scheme membership is compulsory, its implementation has so far been optional because of enrolment challenges. The 2012 estimation from the NHIA shows that only 36 percent of the country's 24.6 million population were valid (active) card bearing members of the NHIS scheme (Health Incorporated Consortium, 2014; National Development Planning Commission, 2010). By December 2013, active membership of the scheme was 38% of the population (NHIA Annual Report, 2014). Approximately 64 percent of the other active subscribers were those on the exemption category; which are vastly children 18 years and below.

2.5.3.2 Types of Health Insurance Schemes available under the Law

The NHIA 2003 (Act 650) allows for the establishment and operation of three types of health insurance schemes namely: District Mutual Health Insurance Schemes (DMHIS), which are administered throughout all districts where all inhabitants could become eligible subscribers or beneficiaries; Private Commercial Health Insurance Schemes (PCHIS), which are operated to deliver care to certain categories of people like church members who establish their own mutual health protection programs; and Private Mutual Health Insurance Schemes (PMHIS), which are nationwide and not limited to a particular region or district and all Ghanaians have the opportunity to benefit or be registered with. However, it is only the DHMIS that receives subsidy from the National Health Insurance Fund (GoG, 2003).

2.5.3.3 The Exempt categories under NHIS

The NHIA excludes some categories of people from premium payments so as to make them direct beneficiaries of the scheme. Under NHIA Act, the exempt groups involve SSNIT pensioners,

indigents, children of 18 years and below, and the aged 70 years and above.

Again, reducing the deaths of women from pregnancy or child-birth related complications and reaching the MDG5 target by 2015 was however proving a serious challenge for Ghana. In 2008 Government of Ghana also introduced free maternal care for pregnant women through NHIS in order to give all mothers full package access to antenatal, prenatal and postnatal care (NHIS Status Report, 2008). Mentally challenged persons and Livelihood Empowerment Against Poverty (LEAP) beneficiaries were also added to the exemption category following the amended NHI Law, Act 852 section 29 (d) (GoG, 2012; NHIA Annual Report, 2012).

2.5.3.4. Financing approach of NHIS

According to Carrin and Chris (2005), many countries have been in quest of ways to make their health financing systems provide adequate financial risk protection to their entire populace against the costs of healthcare. Appropriate health care financing ensures the populace not only has access to healthcare, but they can also use the health services when they need them. Health care financing in Ghana has emanated from a combination of sources which includes general taxation, financial credits, external assistance, out-of-pocket health payments and health insurance for the period. According to Adisah-Atta (2017), corporate tax is also one of the funding sources of the Ghana healthcare system. He noted that this corporate tax contributes 7.1% to the total health expenditure of Ghana (Adisah-Atta, 2017). Public health expenditure of Ghana as a percentage of total health expenditure was only 59.8 percent in 2014. This expenditure according to World Health Organization [WHO] (2014) translated into only 2.1 percent of GDP.

The NHIS specifically is financed through:

- a) The monthly payments of premium by subscribers between GH¢ 7.20 and GH¢ 48 depending on the person's socio-economic status;

- b) NHI Levy which is a 2.5% value added tax (VAT) on selected goods and services;
- c) 2.5% deduction from formal sector workers' social security contribution managed by the Social Security and National Insurance Trust (SSNIT)
- d) Budgetary support allocated by the Parliament of Ghana;
- e) Income accruing to the NHIF from investments made by the NHI Council s (NHI Act, 2003. Act 650); and
- f) Voluntary contributions such as grants, donations and gifts (Alhassan et al., 2016; Atim et al., 2001; Bennett 2004; Durairaj et al., 2010).

However, the premiums paid by members to insurance schemes according to Durairaj et al. (2010) are planned in such a way that they are graded according to people's ability to pay. Durairaj et al. (2010) reported that the rich and the healthy subsidized the cost to be paid by the poor and the sick through taxation and payment of premiums, whilst the economically active adults paid for the children and the aged.

2.5.3.5. Effect of NHIS in Ghana

The implementation of the NHI subsidy policy (fee exemption) in Ghana showed that there had been a substantial improvement in maternal care delivery. Households' out-of-pocket payments for Caesarean Section (CS) and normal delivery at health facilities decreased (Asante et al., 2007). Also, a total of 3,822 healthcare facilities are accredited to facilitate healthcare delivery under the scheme (NHIA, 2013). Durairaj et al. (2010) in their study similarly showed that by June 2009, coverage of the NHIS had gone up to 67.5% with poorest and disadvantaged people finding their way into the system.

Again, the implementation of the NHIS in Ghana seems to have resulted in the growth of use of healthcare services. The numbers of both out-patient and in-patient care services has improved

significantly. According to NHIA (2014), the number of outpatient care visits increased from 0.6 million in 2005 to 27.35 million in 2013; the number of in-patient care admissions also increased from 28,906 in 2005 to 1.61 million in 2013 (NHIA, 2014). Ekman (2007) similarly noticed that health security raised the extent of utilization of health centers and cut down the fee charges on health services. The health insurance promotes better access in healthcare, and protects poorest households against catastrophic financial payments due to illness (O'Donnell, Van Doorsaer, Wagstaff, & Lindelow, 2007a; Sepehri, Serma, & Simpson, 2006 cited in Nguyen, Hai Khuat, Ma, Pham, Hong Khuat, & Ruger, 2012). Additionally, increases in the utilization of healthcare services at most facilities in the Western Region of Ghana is worth mentioning (Ghana Health Service Annual review report, 2009).

2.6 Poverty in Ghana

2.6.1 The Concept of Poverty

The concept of poverty has attracted diverse and varied definitions. According to Chambers (2006), what it takes to mean poverty centres on five clusters:

- b) income/consumption poverty—economists' description of poverty based on measurable indicators;
- c) material lack or want—the state of limitation or lack of wealth and poor assets like clothing, shelter, personal means of transport, television and radio, and lack of access to services;
- d) capability deprivation—referring to what one cannot or can be, examples going beyond materialistic to self-esteem in society and physical skills or abilities;
- e) multi-dimensional deprivation; and
- f) the multiplicity of the meanings of poverty identified by the poor themselves.

The various definitions of poverty point to income level and the direct influence of poverty measure is social status because poverty describes the social condition of people (Townsend, 2006). This is very fundamental to what SHP intervention be about.

2.6.2 Poverty trends in Ghana since the early 1990s

With the middle-income country status attainment in 2010, and discovery of offshore oil reserves, per capita growth of Ghana has remained relatively high, over 7% per year. Notwithstanding the growth recorded, poverty remains prevalent in many areas, and is the single most observable factor impeding households from accessing quality healthcare. Districts that have been identified as the most deprived tend to have the highest households in need of basic necessities (food, clothes, shelter and quality health) of life. The sixth round of the Ghana Living Standard Survey (GLSS 6) estimation based on a new upper poverty line indicated that the proportion of poor population in Ghana was 24.2 percent in 2012/2013, with a poverty gap index of 7.8 percent. Thus, in looking at poverty trends, Ghana's poverty level has declined from the 51 percent recorded in 1991. The 24.2 percent recorded in 2012/2013 means 6.4 million Ghanaians cannot afford to spend GH¢3.60 on food a day (GSS-GLSS 6, 2014). The report also revealed that about 8.4 percent of the population live in extreme poverty, and they cannot afford to spend more than GH¢ 2.17 on food in a day (GSS-GLSS 6, 2014).

According to the GSS-GLSS 6 (2014) report, households in urban areas continue to have a much lower average rate of poverty than those in rural areas (10.6% versus 37.9%). This means rural poverty is four (4) times higher than urban poverty.

Studies that have investigated poverty in Ghana have identified that contribution to this poverty incidence varies across demographic groups, of which the north-western part of Ghana has high

incidence of poverty (Ghana Statistical Service [GSS], 2015). The Ministry of Education (2008) studies reported the three northern regions of Ghana (The Northern Region, Upper East and Upper West) to have a greater concentration of poorest households (Ministry of Education, 2008, cited in Boateng & Ansah, 2014). By regional basis, Upper West stands out as the poorest with a poverty rate of 70.7 percent (see Table 2.1) (GSS-GLSS 6, 2014; GSS, 2015). Besides, the GSS (2015) poverty map report on the 216 districts in Ghana further disclosed that Wa West and East were the poorest districts in Ghana with overall poverty rate of 90 percent and 84 percent respectively. Pockets of poverty were recorded in other districts such as Adaklu in the Volta Region with 89.7 percent poverty rate, Shai Osu-Doku in the Greater Accra Region (with 55.1 percent) and Sekyere Afram Plains (with 59.6 percent) in the Ashanti Region. Others also have high concentrations of poverty (GSS, 2015). For example, East Gonja, located in the Northern Region, is reported to be the district with the poorest persons (GSS, 2015). The poor is variously described as the vulnerable, excluded, deprived or marginalized people being in bad condition (Chambers, 2006). Further evidence in such studies have showed that such districts and regions are characterised by high child and infant morbidity and mortality rate, and low levels of general family healthcare due to limited access to healthcare (MoE, 2008, cited in Boateng & Ansah, 2014).

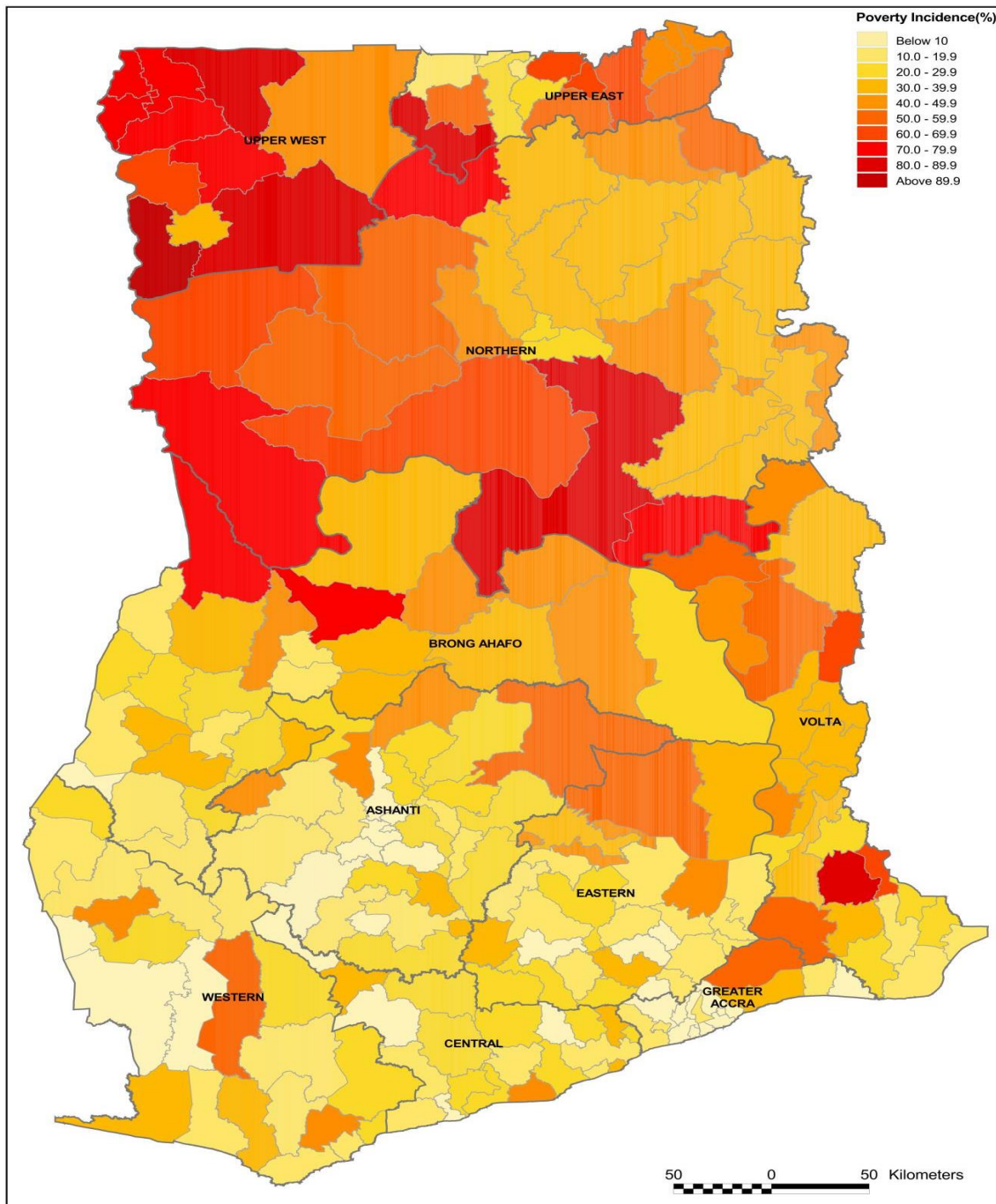
Table 2.1 Poverty Incidence and Poverty Gap by Region, 2005/06 -2012/13 (Poverty line=GH¢1,314)

Region	Poverty incidence (Po)	Contribution to total poverty (Co)	Poverty gap (P1)	Contribution to total poverty gap (C1)	Poverty incidence (Po)	Contribution to total poverty (Co)	Poverty gap (P1)	Contribution to total poverty gap (C1)
2012/13					2005/06			
Western	20.9	7.9	5.7	6.8	22.9	7.3	5.4	5.0
Central	18.9	6.9	5.6	6.4	23.4	6.4	5.6	4.4
Greater Accra	5.6	3.8	1.6	3.5	13.5	5.9	3.7	4.7
Volta	33.8	12.1	9.8	11.0	37.3	8.7	9.2	6.2
Eastern	21.7	9.3	5.8	7.8	17.8	7.5	4.2	5.2
Ashanti	14.8	12	3.5	9.0	24.0	12.6	6.4	9.8
Brong Ahafo	27.9	11.4	7.4	9.4	34.0	9.8	9.5	7.9
Northern	50.4	20.8	19.3	24.9	55.7	21.0	23.0	25.2
Upper East	44.4	7.4	17.2	9.0	72.9	10.9	35.3	15.3
Upper West	70.7	8.4	33.2	12.3	89.1	10.0	50.7	16.4
All Ghana	24.2	100.0	7.8	100.0	31.9	100.0	11.0	100.0

Source: Ghana Statistical Service, Ghana Living Standard Survey 6, 2014.

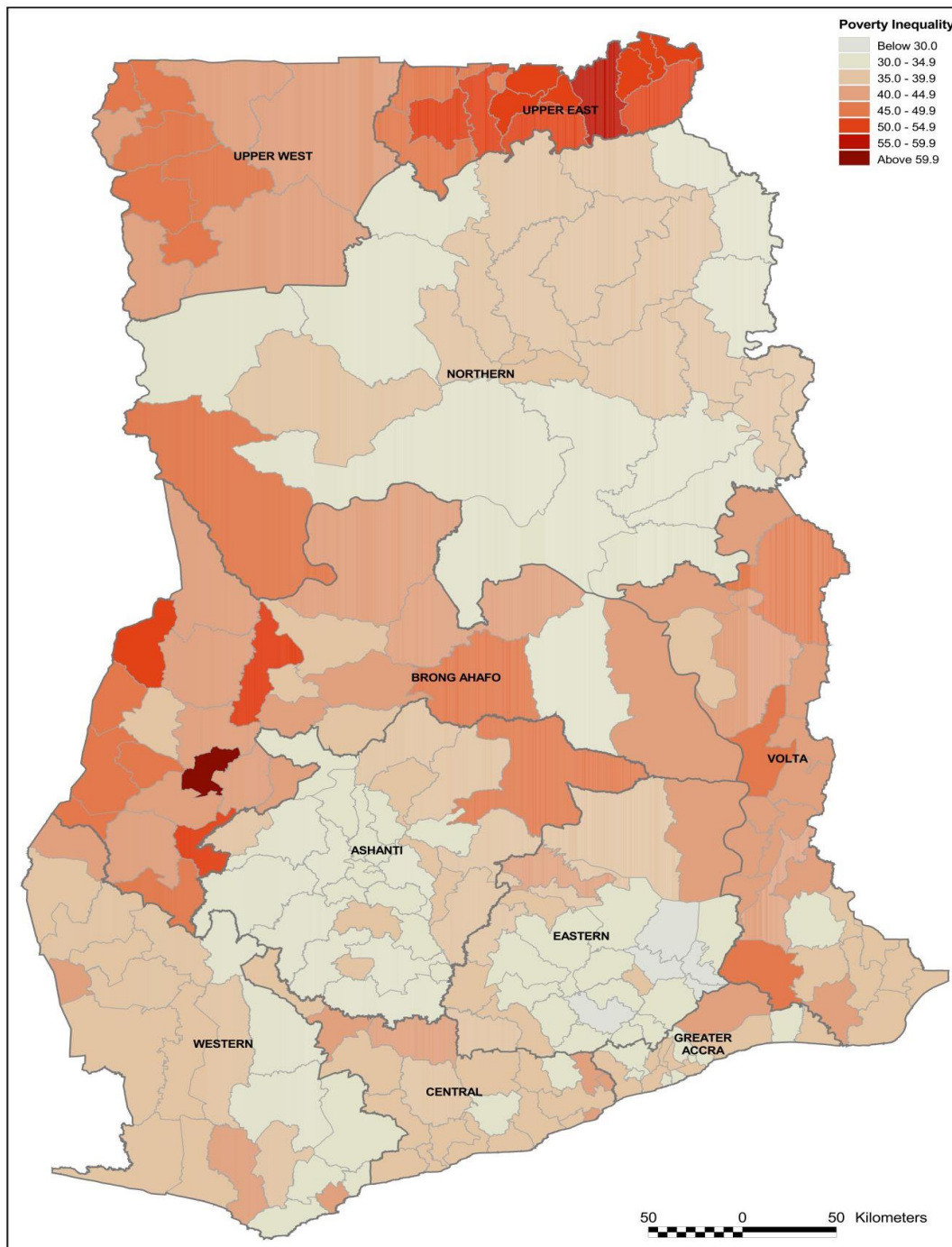
Poverty incidence in Ghana has brought increasing inequality across the country (see Figure 2.1).

One area where such incidence is more experienced is the health sector, aside education and socio-economic sectors. Healthcare inequality is predominant because of unaddressed poverty. The poor and most vulnerable populations are therefore at a very disadvantaged position in seeking and receiving quality and affordable health services (Blanchet et al., 2012)



Source: Ghana Statistical Service, 2018.

Figure 2. 1 Poverty Incidence in Ghana



Source: Ghana Statistical Service, 2018.

Figure 2. 2 Poverty Inequality in Ghana

2.6.3 The Need for SHP in Ghana

As in other countries, evidence from Ghana suggests that illness is one of the major health risks to health status and has pushed majority of the poor and most vulnerable below the poverty line, as they have to make direct payment for their health services. Financial accessibility to health facilities however remained a major barrier for most of them thus depriving them of essential healthcare (Agyepong & Adjei, 2008). Payments for health services among these vulnerable groups normally require out-of-pocket payments which decrease households' income level, and reduces expenditures for basic needs such as food, housing and clothing. In many instances, such payments lead individuals or households to borrow money and to sell household assets (Michielesen, Meulemans, Soors, Ndiaye, Devadasan, De Herdt, Verbist, & Criel, 2010). As a consequence, many of these vulnerable groups are denied access to needed health services or prevented from receiving a full course of needed treatment (van Doorslaer, O'Donnell, Rannan-Eliya, Somanathan, Adhikari, Garg, & Zhao, 2006). This result decreases their productivity capacity and threatens the entire economy (Scheil-Adlung, et al., 2006).

The growing recognition of this has called for the need to provide SHP interventions in order to minimize the socio-economic barriers of healthcare access and services among the poor and vulnerable households' members, making health systems more equitable (Michielesen et al., 2010). Hence, linkage to SHP is essential to protect them against health risks and catastrophic expenditure, and subsequent impoverishment (Xu, Evans, Kawabata, Zeramdini, Klavus, & Murray, 2003); thus reducing poverty and ill health (Hormansdorfer, 2009) among them.

2.6.4 Poverty and Health Protection System Relationship

Alhassan et al. (2016) in their study revealed that under the premium exemption category active members of the NHIS are more than 60%. Yet poverty prevents majority of them from accessing healthcare, owing to the fact that the NHIS does not cater for certain treatment/ drugs. Hence, majority of them depend on the approximately 45,000 traditional herbalists working in the country. This situation is mainly dominant among poorest households' members in the rural areas, where access to essential healthcare services is limited and modern healthcare facilities are located miles away. Thus, over 70% of the Ghanaian populace lived over 5 kilometres from the nearest health care provider (Blanchet et al., 2012; Sekyi & Domanban, 2012).

2.6.5 SHP Intervention (NHIS) as a Poverty Reduction mechanism in Ghana

The “Cash and Carry” approach came into being by a Legislative Instrument (LI) namely LI1313 of 1985 (GoG, 1985), and was aimed at recouping 15% of the cost of financial cost in healthcare in Ghana (Brobbey-Mpianim, 2014). In response to the challenges associated with user-fees, particularly “Cash and Carry” system to increase access to primary health services among the vulnerable groups (NHIS, 2013), the NHI Scheme was introduced in 2003, with the rationale to promote access in healthcare and financial coverage to all citizens, especially vulnerable groups. NHIS became a financial tool that enabled subscribers to the scheme to access healthcare. Hence the average Ghanaian was not unduly under pressure to access healthcare. Majority of Ghanaians therefore have the opportunity to save a portion of the money they would have paid whilst receiving care for other needs.

2.6.6 Relevance of SHP to the [Poor] Beneficiaries

SHP is an important tool for reducing poverty and ill health among vulnerable groups in society especially, and can contribute to sustainable development. Scheil-Adlung, Carrin, Jütting and Xu (2007) specifically states that SHP to certain extent reduces a household's financial loss. Besides providing financial protection from the economic consequences of illness, SHP (SHI) also improve access to health care (Nyman, 1999). A study on SHP in Vietnam not only confirmed these findings, but also showed that a reduction of OOPHE leads to an increase in consumption level. This is consistent with the supposition by Wagstaff and Pradhan (2005) that households tend to decrease their consumption when faced with the risk of high out of pocket health payments (OOPHEs).

Again, extending SHP (SHI) to beneficiaries help remove barriers related to severe illness-related costs that prevent vulnerable groups from seeking health services, and thus improve their health status. This facilitates pro-poor growth and poverty reduction.

2.6.7 Challenges with the use of SHP in addressing Poverty in Ghana.

The major hurdle concerns the mismanagement, misappropriation and inadequate operational logistics regarding human, financial, technical and government unwarranted involvements (Brobbe-Mpianim, 2014; NHIS, 2014). Procuring the quantity of drugs required by health centers under the scheme is a crucial aspect in the sustenance and success of the NHIS. The shortage of drugs has become one of the challenges facing the scheme, as lots of people have become part of the scheme.

2.7 Existing Government's SHP Interventions for Vulnerable Households

Existing statistics indicate that poverty is endemic in some parts of Ghana, more especially the three northern regions where at least 6 in every 10 persons are poor (Aryeetey et al., 2009).

According to Health Inc Consortium (2014) in their study, the gender inequality index (GII) for Ghana reflects gender-based disparities in reproductive health care, empowerment and economic activity. Due to the cost of registration and premium payments, NHIS enrolment rate is lowest among the poorest population (Asante & Aikins, 2008; Jehu-Appiah et al., 2011; Sarpong, Loag, & Fobil, 2010). Furthermore, out-of-pocket payments in Ghana continue to form a greater proportion of total household health expenditure (van Doorslaer, O'Donnell, Rannan-Eliya, Somanathan, Adhikari, Garg, & Zhao, 2006; WHO, 2013), making it impossible for majority of the members of the poorest household to access basic health care. Besides the direct costs of healthcare, the members of the poorest households face other economic barriers such as high transport costs to health facilities, and the opportunity cost of being away from earning income (Asante & Aikins, 2008). The combinations of these costs have effectively excluded poor and vulnerable people from accessing basic healthcare.

To ensure that the poor and vulnerable have access to quality, appropriate and affordable basic healthcare, according to Schieber et al. (2012) government must develop efficient and effective social health protection systems. This is because these persistent inequalities in access to basic healthcare and lack of financial risk protection for the poor according to WHO (2005) violate the principles of 'Right to Health' which ensures "access to key promotion, preventive, curative and rehabilitative health interventions for all at an affordable cost, thereby achieving equity in access".

2.7.1 SHP Interventions under MoH

Under the jurisdictional operations of the Ministry of Health (MoH), there have been social health protection interventions that have significantly influenced the welfare of poorest households in Ghana. The implementing agency, the actual programmes and components being implemented in Ghana are as displayed in Table 2.2.

Table 2. 2 Some SHP Interventions

Implementing Agency	Programmes/Projects	Components
MoH /NHIA/GHS	NHIS for Exempt Categories	The NHIS for Exempt Categories (Indigents) was established by the National Health Insurance Act 2003. It receives a 2.5% contribution from the SSNIT pension scheme to support the programme and subsidize healthcare costs. The NHIS is expected to remove the financial barrier to access healthcare and nutritional services, particularly for the poor and vulnerable in Ghana (below 18 years and the aged 70 years and above).
MoH/GHS	HIV/AIDS Campaign Voluntary Counseling and Testing (VCT)	VCT has been accepted worldwide as a holistic approach in combating HIV/AIDS. As a result, free periodic otherwise known as ‘know your status’ campaigns are carried out in public places such as markets, bus terminals for members of the general public. There are 251 VCT centers established nationwide.
GHS/Ghana AIDS Commission	ABC Promotion (The use of “Abstinence, Be faithful and Condom use” in the fight against HIV/AIDS)	Ghana has adopted the ABC Promotion (The use of “Abstinence, Be faithful and Condom use” in the fight against HIV/AIDS)
GHS/Ghana AIDS Commission	Reduction in HIV/AIDS Related Morbidity and Mortality	Access to Antiretroviral Tract (ART) reduces mortality and morbidity among Persons Living With HIV/AIDS (PLWHA), hence, efforts through the Global funds have been put in place to make ART easily available.

MoH/GHS	Breast Cancer Awareness Programme	There have been over concentration on communicable diseases to the neglect of breast cancer. Little attention has been given to breast cancer awareness in the country. Hence, periodic breast cancer screening exercises are carried out across the nation especially in deprived communities.
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Source: National Development Planning Commission (2010)

2.7.2 SHP interventions under MoH / NHIA / GHS

These include:

- i. Free Maternal Health Care under NHIS;
- ii. Expanded Programme on Immunization (EPI);
- iii. Supplementary feeding programme;
- iv. Malaria Control Programme;
- v. Prevention of Mother-To-Child Transmission of HIV/AIDS (PMTCT); and
- vi. Programme to reduce Nutrition and Micronutrient Deficiencies.

2.7.3 Other Health Interventions

2.7.3.1 The Community-based Health Planning and Services (CHPS) Compound

Policy/System

The CHPS is a country-wide intervention with the rationale to curb hindrances to physical access to health services, and a major focus on reducing maternal mortality to the barest minimum. The initiative primarily placed greater emphasis on places in the hinterlands and very remote areas lacking very basic health provisions. The CHPS intervention is resolved to greatly uplift basic health programmes via mobile vicinity health services delivered by nurses. The advent of CHPS into community areas happened via detailed planning and community engagement by the Health

administrators and members of localities. A vital bedrock of CHPS implementation is the total acceptance and support by opinion and traditional heads.

The intervention is a community-focused strategy targeted at giving health provision via collaboration between the service providers, opinion leaders and community associations (MOH, 2012). The system became relevant owing to the realization of the long distances people had to travel to access healthcare at the closest health center (MoH, 2012). Presently, there are more than 1,863 CHPS compounds across Ghana (MoH, 2012). The CHPS system has significantly impacted healthcare in enhancing adoption of basic healthcare services (MOH, 2012). Some of the principles of CHPS compound initiative are:

- i. *Credibility*: CHPS is founded on the idea that the decentralization of a firms' transformation has the high tendency to happen if the organization puts in place best practices in its operations and if expenses and working dynamics are deemed viable to accomplish (Phillips et al., 1984; Phillips 1988; Solo et al., 1998; Bertrand & Marin 2001). This, has been a real matter of concern of findings and information delivery (Nyonator et al., 2002);
- ii. *Feasibility*: Operations that are started on a low level help technocrats and decision makers to place high premium on manageable working change target, and clarify particularly what is needed to embark on change (Glaser et al., 1983; Havelock 1978);
- iii. *Putting success to work*: The CHPS gives a lot of attention to the global experience indicating that change really needs past achievements to fuel it (Glaser et al., 1983); and
- iv. *Ownership*: Research on the dissemination of organizational change procedures regularly portray that changes due to external factors tend to fuel lots of negative issues during its implementation compared to changes seen to be for the host organization or

community for that matter (Melgaard, Aylward, Creese, & Lee, 1998).

2.7.3.2 Antenatal Care Services

A woman curbs the danger of pregnancy-associated diseases and its effects when she accesses antenatal services within the first three months of her pregnancy (WHO (2013). Normally, WHO (2013) recommends that pregnant women visit and be provided ANC services from a well-trained care provider at least four occasions prior to birth. It backs the argument that the healthcare provided to pregnant women whilst pregnant, during delivery, and immediately after post birth is critical for the survival and physical strength of the mother and the baby (GDHS, 2008). Hence adoption of antenatal care is significant in curbing maternal death worldwide, across West Africa and the country especially.

Summary

The discussions under this chapter show that across the world, in major economies in Latin America (Brazil), Asia (China) and Europe (United Kingdom), SHP began decades ago. Implementation of SHP interventions in these countries have helped remove financial barriers related to high illness-related costs that prevent most citizens from seeking health services, with the statistics of Brazil and China for instance.

In Africa, countries examined in this chapter began their various health insurance systems from the earliest part of the 21st century. Funding in these countries have not increased as much as expected regarding population growth and health challenges confronting the populations.

Ghana has to a large extent covered a considerable number of her population with health insurance and other crucial SHP programmes. Yet, majority of the population, particularly the poor and

vulnerable groups still have limited access to healthcare as a result of high incidence of poverty. Some causes of poverty realized from the review include lack of education, ignorance, health problems etc.

CHAPTER THREE

3.0 LITERATURE REVIEW

3.1 Introduction

Households' insurance decisions are not just decisions; rather they are decisions which are ancient, complicated, interrelated and unlimited. Numerous factors can explain households' insurance enrolment decisions. These factors, which can either enable or hinder households from enrolling onto SHP intervention such as health insurance, include households demographic and socio-economic characteristics, scheme related factors, supply-side factors and institutional factors.

There are various theories that inform analysis of insurance demand, and help to better understand decision making notion among households in the context of health insurance enrolment. Such theories include as consumer theory, decision-making theories and health behaviour theories. Inferring from Bemah (2010), a lot of debates are on-going regarding the theoretical explanations of SHP interventions and their dynamics.

However, a quick look at the literature provides- decision making theories (Expected Utility Theory (EUT) and State-Dependent Utility Theory (SDUT)) and a health behaviour theory (Health Belief Model (HBM)). These are the relevance theories that explain and predict people's health related behaviour towards enrolment decisions and consumption, healthcare use and OOPHE. The assumptions and beliefs underpinning the development of the adopted theories were also not taken for granted. Attention was given to every element of the theories adopted and experimental scenarios added in each explanation. The theoretical section begins with the Expected Utility Theory and ends with Health Belief Model.

3.2 Decision making Theories

3.2.1 The Expected Utility Theory (EUT)

The Expected Utility Theory (EUT) was first introduced by Daniel Bernoulli in 1738 to solve the Saint Petersburg paradox by drawing a difference between expected value and expected utility. The expected utility EU uses weighted utility multiplied by probabilities, rather than weighted outcomes (de Castro, Teodoro, de Castro, & Parsons, 2016; Marquis & Holmer, 1996; Suhonen, 2007). Under EUT, Manning and Marquis (1996) indicated that “insurance demand is a choice between an uncertain loss that occurs with a probability when uninsured and a certain loss like paying a premium”.

The adoption of the EUT in this study puts forth enormous importance in explaining people’s insurance enrolment decisions. The EUT supposition is that, decision makers, i.e. members of households are risk averse hence will maximize utility by choosing from preferences that minimize the possible occurrence of financial uncertainties and risks when they fall ill and/or make medical expenses (Buchholz & Schymura, 2012; Marquis & Holmer, 1996; Schneider, 2004; Suhonen, 2007). Therefore, if the expected utility (EU) to be derived from enrolling into health insurance is higher than that derived from otherwise, the household will decide to enrol (Cutler & Zeckhauser, 2000). Thus, the demand for insurance according to Schoemaker (1982) reflects “individuals’ risk aversion and demand for income certainty”. In this case, given the risk of illness and of healthcare expenditures in the future, risk-averse members of a household will be more likely to enrol in health insurance in order to reduce this uncertainty.

The EUT has been under severe criticisms from some theorists (Ahmed, Bwisa, Otieno, & Karanja, 2014; Kahneman & Tversky, 1979; Schneider, 2004; Suhonen, 2007; Zank & Wakker, 1999). The first theorists are Zank and Wakker (1999) who disagreed, in their attempt to achieve state-

dependent extension of Savage's subjective expected utility model, with the EUT's condition of dissociation of outcome value from its very state of nature in the face of uncertainty. Schneider (2004) also criticized that the EUT is quiet about the link between households' socio-economic status and insurance enrolment; thus, the EUT did not factor in the effects households' socio-economic status such as income level has on insurance demand. Again, he criticized that it is not only risk aversion that could affect individual household's insurance decisions but also *the access motive of insurance*—benefits accrued from availability of healthcare that otherwise would be unbearable for the poor (Schneider, 2004). Further, Ahmed et al. (2014) supported with a disputation to the theory's assumption that decision makers (households) are always rational. Ahmed et al. (2014) condemnation was that it is not always so, that individuals make well-reasoned choices (rational decisions) upon considering preferences. Because of wide complexities in human decision making, certain human decisions can be irrational. Suhonen (2007) joined in similar denunciation that decisions of people systematically infringe on the basic rationality axioms. de Castro (2016) claimed that, there are couples of experimental cases that justify that under risk some individuals do not take decisions strictly based on EU. For instance, de Castro (2016) cited that, rich people (financial professionals) being fully aware of EU maximization may act according to prospect theory.

Nonetheless, whether the tenets of the theory are plausible or not its implications are very meaningful in another context (Abrahamsen & Asche, 2011; Buchholz & Schymura, 2012).

3.2.2 The State-Dependent Utility Theory (SDUT).

It must be conceded, however, that as is often the case, no theory is without inherent limitations. Hence, to overcome that of the EUT, the researcher complements it with the State-Dependent

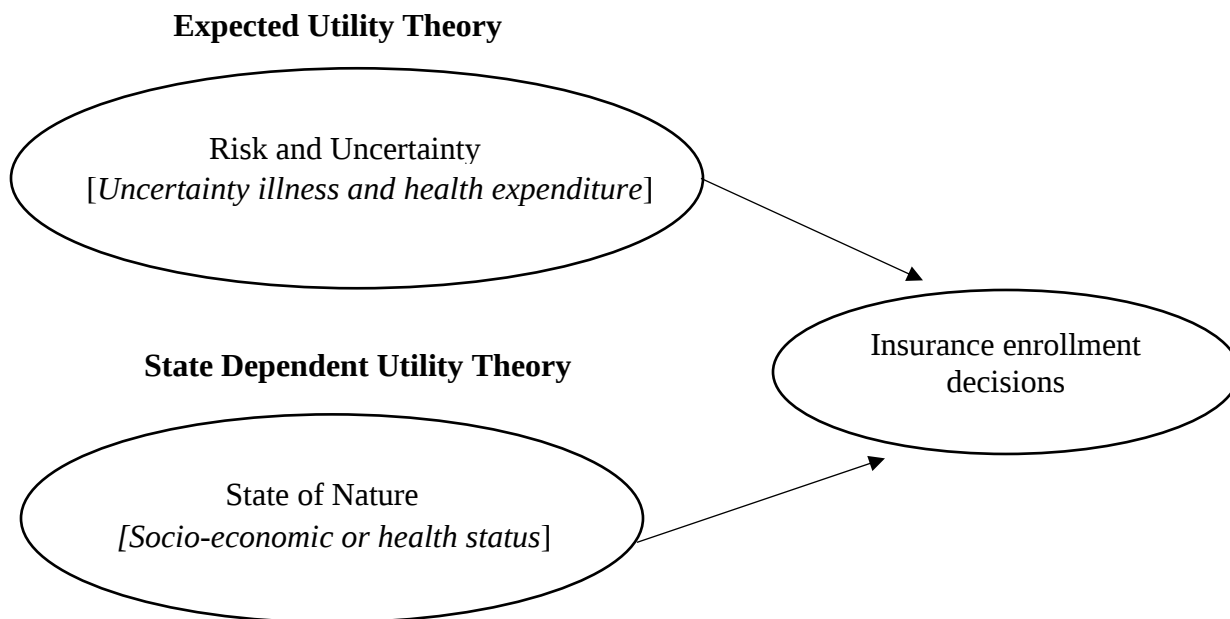
Utility Theory in order to better explain how the socio-economic status influence people's insurance enrolment decisions.

The SDUT, according to Zank and Wakker (1999), emerged as an extension of Savage's (1954) subjective expected utility theory to explain preferences relating to decision making in a state of finite space. The SDUT theory holds that decision maker's preferences are directly influenced by their *state of nature*, such as socio-economic or health status (Muermann & Kremslehner, 2014; Zank & Wakker, 1999). Thus, people utility level and taste are guided by their socio-economic or health status (Muermann & Kremslehner, 2014; Zank & Wakker, 1999). The insurance decision by a member of the household is therefore influenced by both demand and supply factors such as income level and insurance pay-offs. Hence, Phelps (1973, p.350) emphasized that "the expected need for medical care given the *current state*, and the *magnitude of the related insurance pay-off* in case of sickness will affect individuals' insurance demand".

Eatwell, Milgate and Newman (1987, p.242) define this *nature* as, "*the object of concern to the decision-maker*" and a *state of nature* as, "*a portrayal of nature leaving no relevant aspect undescribed.*" In a state of atomicity, specifically, utility of outcome depends on decisions that directly pertain to the exact time or condition involving the decision maker subjectively in the face of certainty. A perfect scenario is that of health insurance, whereby the decision to enrolment or payment of premium depends on illness or health condition (Eatwell et al., 1987; Zank & Wakker, 1999). The theory therefore does not provide any condition of probability. In all ways, the utility outcome that the theory emphasizes solely depends on the exact state of nature (Zank & Wakker, 1999). Scholars like Phelps (1973) and Schneider (2004) support that though risk aversion might vary among people, which could directly influence their health insurance decisions and contribution magnitude; many people insure when in healthy condition because most of them want

to remain healthy even in the future. Thus, people's optimism to remain healthy in the future influence their health insurance enrolment choice.

The central issue raised against the SDUT is its sole reliance on condition of state of nature. What theorists like Zank and Wakker (1999) firmly hold against the theory is that, there is non identifiability of probability. Scholars like Drèze and Rustichini (2004), Mongin (1997) criticize that the theory is not of wide usage because of its few assumptions it attempts to contextualise. Other critics like Eatwell et al. (1987), Zank and Wakker (1999) contest that, there is no such condition whereby things are finite or static. Nevertheless, the theory made us understand that in the face of uncertainty, the very natural state of subjective situation influences decision makers and the consequences of their health choice. Moreover, Alkenbrack (2011) articulated in her review section on the study of *Health insurance in Lao People's Democratic Republic (PDR)* that economic models provide partial explanation to how poverty influences health decision-making. This assertion is refuted by the assumptions of SDUT.



Source: Author's Own Construct, 2018

Figure 3.1 Framework of Expected Utility and State-Dependent Utility Theory

As noticed from Figure 3.1, theoretical constructs of two decision-making theories such as risk and financial uncertainty and state of nature helped to understand health insurance decision. These theoretical constructs of EUT and SDUT are what the study identified to help explain health insurance decisions among poorest households. Nevertheless, these are not all-embracing theories to best explain health insurance decisions. All human choices are ‘goal-directed activities’; hence, ‘decision theory is concerned goal-directed behaviour in the presence of options’ (Hansson, 1994).

In general, the study is applying the theoretical constructs of two (2) decision-making theories to see if their assumptions hold in influencing NHIS enrolment decisions among the poorest households in Ghana.

3.3 Health Behaviour Theory

3.3.1 The Health Belief Model

The Health Belief Model (HBM) is an ‘intrapersonal (within an individual’s beliefs, knowledge and attitude) theoretical health promotion model propounded in the early 1950s in the 20th century by a cadre of United State (US) social psychologists, namely Godfrey Hochbaum, Stephen Kegels, and Irwin Rosenstock (Abraham & Sheeran, 2015; Cesnaviciene & Gudzinskiene, 2014; Sutton, 2002; World Health Organization, 2012). According to Jantz and Becker (1984) the model emerged from research studies that sought to bring out reasons some people declined involvement in preventive healthcare interventions (programmes) such as tuberculosis and immunization screening that could help diagnosis and prevent diseases early.

The conception of HBM is simply based on two conditions: (a) perceptions of illness threat, and (b) behaviours to counteract this threat. (Abraham & Sheeran, 2015, p.8; Cesnaviciene & Gudzinskiene, 2014; Sutton, 2002; University of Twente, n.d.; World Health Organization, 2012).

The illness threat perceptions based on: the perceived susceptibility of the individual to the illness, and the perceived severity of the illness of the individual and its consequences. Similarly, counteracting behaviors depend upon both the potential benefits of and barriers to action. Together these four perceptions are believed to decide the likelihood of the individual performing a health behavior such as the decision to enrol onto health insurance scheme.

Accordingly, the tenet of the model attempts to suggest that a person's health-seeking behaviour rests on that person's perception and the benefits of action as well as the barriers to action, namely:

- a) Perceived Severity—the conceived severity of a potential illness and its consequences,

- b) Perceived Susceptibility—the person’s sense of vulnerability/exposure to (chance of getting) that illness,
- c) Perceived Benefits—the understanding of the benefits of taking a preventive action, and
- d) Perceived Barriers—the conceived hindrances to taking that action (Abraham & Sheeran, 2015; Norman & Conner, 2015; University of Twente, n.d).

Thus, individuals are most likely to take a decision to enrol onto health insurance scheme if they believe themselves to be susceptible to a particular illness/health condition which they also consider to be serious, and trust that the benefits of their enrolment onto health insurance outweigh the costs of action.

Over decades of its usage, the constructs of HBM have been expanded to include (a) cues to action, and (b) self-efficacy, to aid in explaining whether the action of people will be of acceptance, prevention, screening, or controlling of the illness (Abraham & Sheeran, 2015; Prestwich, Sheeran, Webb, & Gollwitzer, 2015; Raingruber, 2014; WHO, 2012). The cues to action are various motivational and persuasive activities that trigger individual readiness to take action or change. This occurs in twofold: internal (e.g. individual internal physical feelings or symptoms [intrinsic actions]), and external (e.g. dentist or doctor’s advice, pressure to succeed, medical check-up, incentives such as milo and milk with health logo, media health campaigns, adverts and influences, and support systems) (Abraham & Sheeran, 2015; Raingruber, 2014; WHO, 2012). The self-efficacy is explained to be the self-confidence to take actions (WHO, 2012). So, the axiom assumption goes that one’s health behavioural outcome is caused by health related actions taken which are determined by perceived illness threats and actions but triggered by cues to action and self-efficacy.

In their discussion chapter, Abraham and Sheeran (2015) expounded in relation to the model constructs that one's certain adopted action is assumed to be determined by the assessment of all available alternatives with focus on the gains or effectiveness of the health-related behaviour and the costs or barriers conceived to act the behaviour. Hence, there is a likelihood of people to comply with a certain healthcare action only if in themselves there is an assurance or self-confidence that they are susceptible to some peculiar health conditions (threats) considered to be severe, and believe that benefits in actions taken to counteract those health conditions (threats) far outweigh the costs of the actions (Abraham & Sheeran, 2015). The discussion thus far has digested the tenet of HBM into six constructs as presented in Figure 3.2.

Much findings have been disclosed about the usefulness of this model, particularly in explaining health-related behavioural changes. In explaining the usefulness of the HBM, Cesnaviciene and Gudzinskiene (2014) articulated that the obvious benefit of the HBM is its ability to predict the factors influencing behaviour change and health lifestyle. Again, the model has been successfully applied in the studies of human health-seeking deeds; creating provisions for the understanding and predicting exactly how people will act in respect to their healthcare (Grossman, 1972a; Norman & Conner, 2015; Raingruber, 2014; Schneider, 2004; University of Twente, n.d; WHO, 2012). Also, Janz and Becker (1984) established that across many prospective studies, the four (4) core perceptions (susceptibility, severity, benefits, and barriers) were practically significant predictors of health behavior.

However, critics have launched several criticisms against the BHM. Like Raingruber (2014) claimed, the model is limited in concepts relating to strategies for change. Adding to this, Abraham and Sheeran (2015) and Ajzen (1991) were of the view that the HBM does not factor in two vital aspects of life, which are social and economic but rather focuses directly on the individual beliefs.

Also, critics like Michie and Wood (2015) and Norman, Boer, Seydel and Mullan (2015) argued that the HBM is devoid of the role that emotional factors like fear and anxiety play in behavioural change. Abraham and Sheeran (2015) identified that initially the model was more centred on individual's subjective state rather than that of the person's experience or history. Also, it did not factor in the "personally and socio-culturally" preconceived consciousness of illness and health (Abraham & Sheeran, 2015; Raingruber, 2014). Not only them, but also Sutton (2002) noted that the model (i.e. HBM) possess predictive utility however the existing correlation between the dimensions of belief and behaviour of which the model emphasizes most was never a simple or strong one and that the stronger predictor (determinant) of subsequent behaviour was 'priori behaviour' than beliefs. A strong criticism against the HBM came from the study of Raingruber (2014), where he disclosed that most HBM critics assert that not all health-related behaviour is based on conspicuous (rational) choice, and also the model does promote victim-blaming.

Moreover, a strong criticism limiting the general usage of HBM is that, factors other than those associated with health beliefs which also have influence or impact on health-seeking behaviour practices have been neglected (University of Twente, n.d.). These factors are socioeconomic status, past experiences and cultural factors. A long critic of the model, Kurt Lewin, argued that the world of perceiver is a direct decider (determinant) of an individual's actions (will to do) and inactions (will not to do) but not the perceived threats of illness (University of Twente, n.d.; Raingruber, 2014).

Like several models and theories, though the HBM has been bombarded with several criticisms, it is very clear to the researcher that the model befits the identified missing gaps and contextual gist of this study. The intent of the profound proponents of the model was to explain why only minute numbers of persons were engaging in programmes meant to detect and avoid disease. This intent

is not far from that of the researcher hence the model best fits the study based on some distinguished aspects.

First of all, the model has been very experiential in health protection, promotion, intervention and prevention programmes. The application of the model has provided a pragmatic insight on the crucial role of the NHIS in people's health decisions, beliefs, and attitudes (actions), particularly health promotion, interventions, and prevention of disease and catastrophes.

Secondly, the model possesses an inherent ability to promote health protection schemes and redress health-behaviour problems. The HBM is effective for redressing problematic behaviours that reduce health concerns, such as contracting HIV, Buruli ulcer, cholera, and high-risk sexual behaviours (Raingruber, 2014). So, the model undoubtedly offers dynamic strategies to deal with behavioural challenges in the implementation of healthcare or health protection schemes like that of the NHIS component in the LEAP programme.

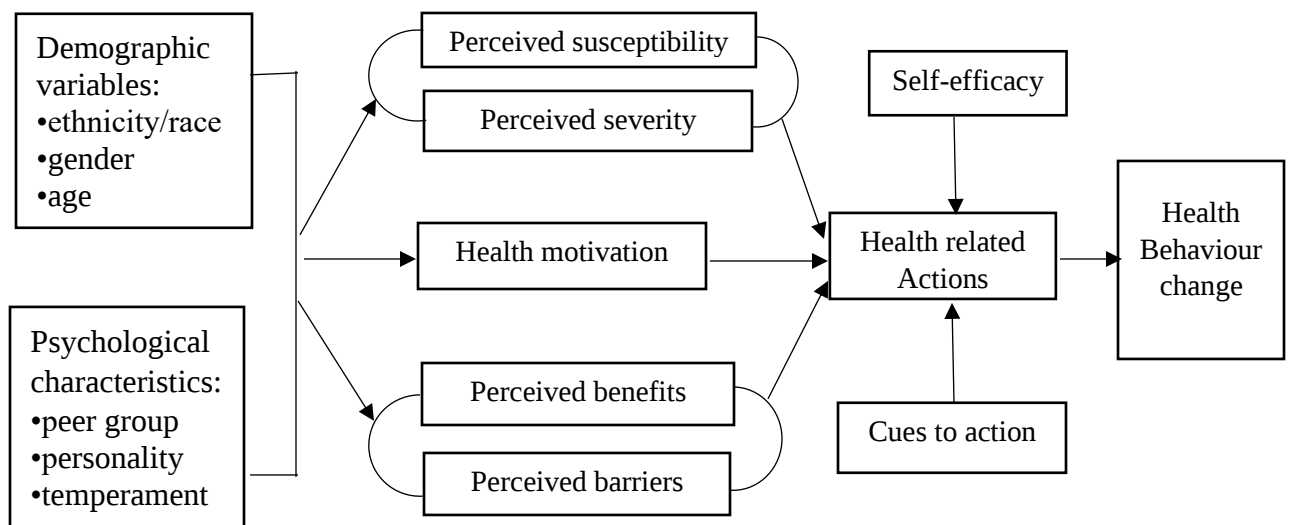
More importantly, the HBM has both testable propositions and strong predictive powers. The model explicitly describes firmly a measurable correlation existing between individual's health perceptions (feelings) and behaviours towards healthcare intervention. It therefore unveils the possibility of measuring people's beliefs and actions towards consumption and utilisation of any SHP intervention such as health insurance. Thus, it provides the measurable variables to predict the behaviour of NHIS subscribers and their consumption pattern and utilisation of the services provided in the scheme. These measurable variables as seen in the Figure 3.2 include demographic variables, psychological characteristics, perceptions, self-efficacy, and cues to action. It is upon this that the researcher noted that the components of the HBM provide a perfect predictive utility. In that, it has provided a better explanations and reasons to understand and predict people's actions and compliance to health-seeking behaviours.

Finally linked to the above, the model provides a thorough understanding of how individuals perceive and react to their health conditions and the responsiveness (compliance) to healthcare therapies and interventions like the case of the NHIS services. This model helps provide clarity as to why households enrol onto NHIS, and reasons for making use of its free and subsidised services. Applying the model constructs within the context of the study, the model propositions and explanations help understand that:

- Perceived severity predicts that when poorest household members perceive the severity of illness and its effects on their overall health condition, based on their acquired knowledge or information, they will change their health behaviour by enrolling onto NHIS and/or comply (adhere) to the various therapies (services) provided.
- Perceived susceptibility speaks that if poorest household members perceive their susceptibility to diseases such as measles, malaria, fever, diarrhoea, and other communicable diseases, or conditions of adverse health consequences on their health status, informed by acquisition of knowledge or motivational factors, they will change their health behaviour by enrolling onto NHIS and /or comply with the various therapies (services) provided.
- Perceived benefits further expound that if poorest household members recognize (accept) the risk of their current state of health conditions or high susceptibility for contracting any disease, the next step is the believing in benefits of engaging in NHIS and its services as a preventive and protective action against illness or injury. This will influence the decision to enrol onto NHIS to use its free and subsidized services.
- Perceived barriers to health behaviour change is brought to bear when poorest household members believe (accept) that the benefits of enrolling onto NHIS may be terminated by

their perceived barriers (costs). These barriers could include NHIS enrolment policies and processes, inconveniences in subscribing to the scheme, upsetting behaviours of the service providers (NHIS staff, and medical officers), expensiveness of uncovered services and unlisted drugs on the scheme, and stress in registration processes.

- Cues to action is understood to be that poorest household members' beliefs (subjective norms and normative beliefs) and societal activities like the media, civic health (NHIS) education, internet health programmes, NHIS advertisement, parental advice, congenital diseases, experiences from insured and uninsured individuals and many others could motivate or trigger behavioural change towards the usage and decisions to enrol onto NHIS programme.
- Self-efficacy explains that factors such as perceived benefits, severity, susceptibility, and cues to action could determine individual's health-seeking behaviour; however, individual household's self-confidence could make them enrol onto, consume and utilise the NHIS intervention, and in same manner not make them do so.



Source: Adapted from Furnham, 1999. P.5; Maloren- Nyamekye, 2013. P.62

Figure 3.2 Framework of Health Belief Model

3.4 Reasons for the Adoption of Decision-making Theories (EUT and SDUT) and a Health Behaviour Theory (HBM)

“Researchers and practitioners use theory to investigate answers to the questions of ‘why,’ ‘what,’ and ‘how’ health issues should be addressed,” (WHO, 2012, p. 79).

Decision-making theories (EUT and SDUT) and a health behaviour theory (HBM) were used in the study as a theoretical framework for explaining NHIS enrolment decisions among the poorest households, and the effect of NHIS membership on consumption, healthcare use and OOPHE.

The EUT has made it clear to all, that people’s health insurance demand is based *on health risk and financial uncertainty*. These identified variables are measurable indicators for determining factors that influence households’ NHIS enrolment decisions. More essentially, this theory has been very phenomenal in the study of decision under risk. According to Charles-Cadogan (2016),

the EUT is, “a benchmark model of decision making in the presence of risk.” Thus, it presents a perfect measurable model for choices under health risks like death, catastrophes, etc.

The SDUT on the other hand provides better explanation on how people’s *socio-economic or health status* influence insurance enrolment decisions. Thus, according to the theory people may have different degree of risk aversion that could influence their insurance decisions. These are the reasons why the decision theories were adopted in this study.

Advancing, the decision-making theories have offered detailed explanations to NHIS enrolment decisions and other health related outcomes among households. EUT and SDUT also helped to identify variables that influence household’s decisions to enrol onto the NHIS by informing that households’ decisions depend not only on risk *and uncertainty* but also on extraneous factors to the decision maker (Hansson, 1994). These decision-making theories have been very fantastic in the study; however, they are not all-embracing as they concern goal-directed behaviour.

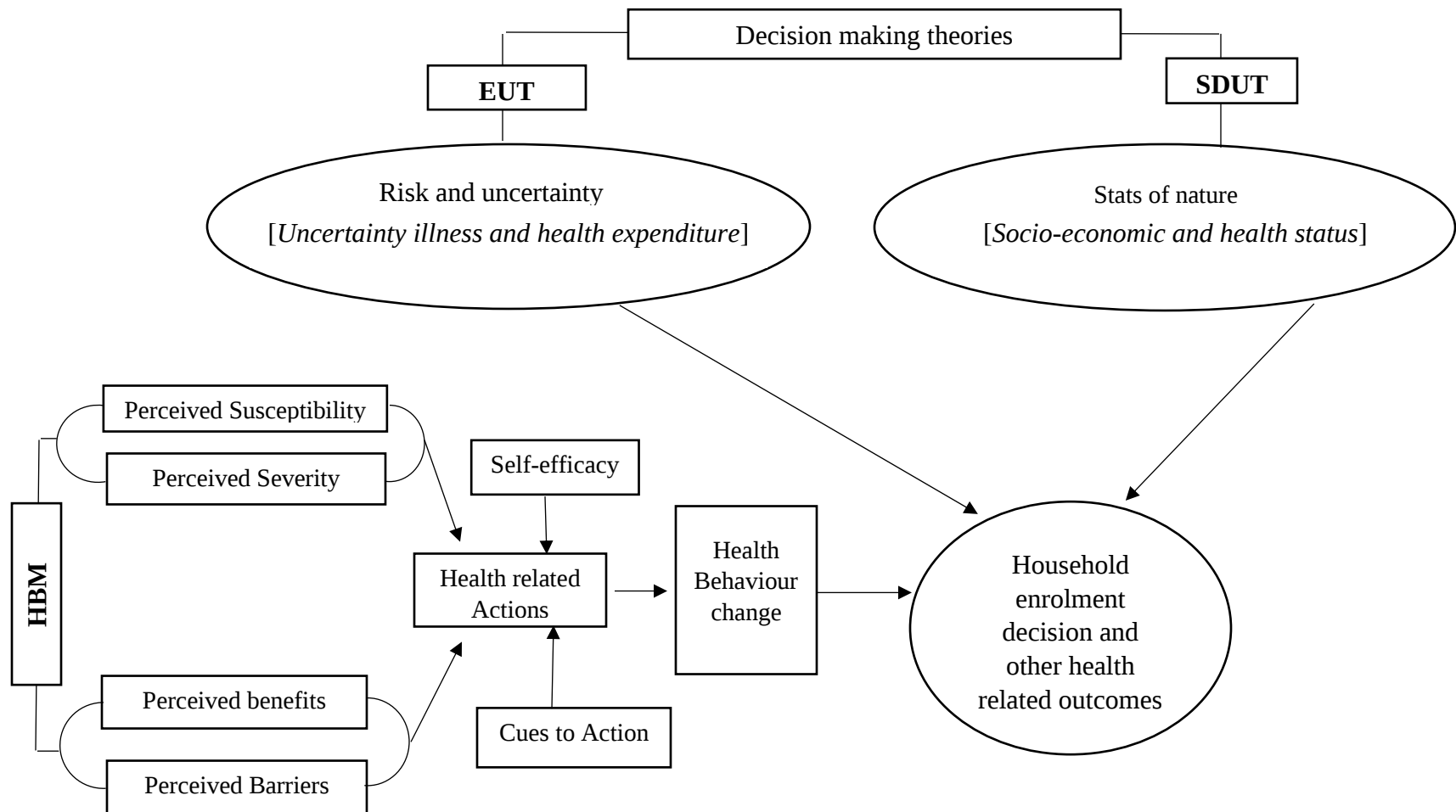
In complementarity, the HBM was also adopted in the study because it provides variables that measure individual’s belief and actions towards consumption, healthcare use and OOPHE. Additionally, the model was also adopted in the study because it provides a framework for shaping behaviour patterns (Abraham & Sheeran, 2015; Conner & Norman, 2015) applicable to SHP interventions that help to explain individuals’ health seeking behaviour to health insurance.

Again, HBM has been very useful in offering several benefits including:

- a) an understanding of why individuals engaged in certain kind of health behaviour,
- b) a foundation for planning and developing methodologies to assess evidence-based health protection interventions; that is strategies to pinpoint suitable participants and evaluation methods,
- c) a road map for identifying indicators and evaluating impacts, and

- d) a guide way for explanations of health behaviour changing processes and influencing factors (WHO, 2012).

Generally, combining these decision-making theories and a health behaviour theory have helped in : (a) exploring the factors that influence NHIS enrolment decision among the poorest households, (b) providing evidence clues on why poorest households make NHIS enrolment decisions, (c) offering empirical explanations on the effects of NHIS membership on consumption , healthcare use and OOPHE, (d) assessing correlations, (e) providing sufficient information and guidance to detect the reference point in every stage of assessing insurance decisions and behaviours, and (f) predicting insurance decisions and behaviour related outcomes. However, a very general few limitations demean the axiomatic constructs of these theories.



Source: Author's Own Construct, 2018

Figure 3.3 Theoretical Framework

Figure 3.3 shows the theoretical framework. The Figure 3.3 illustrates the three (3) basic theories that were adapted and guided the conduct of the study. It also offers the construct of each theory in explaining household enrolment decision and other health related outcomes.

3.5 Empirical Review

This section of the chapter provides a deep account of empirical findings and conceptualisations of findings of diverse studies on HIS effects on poorest households' enrolment decision and other related health outcomes. Literature review was taken across the globe.

Before considering this in turn, it is of substantive value to reflect on the definition of the concept of SHP.

3.5.1 Overview of Social Health Protection

Combating social exclusion in health services delivery has been known as the prime objective for health systems by institutions (organizations) like the WHO and International Labour Organization (ILO, 2007), whose 2008 World Health Report calls for “*reforms that ensure that health systems contribute to health equity, social justice and the end of exclusion, primarily by moving towards universal access and social health protection*” (Commission on Social Determinants of Health (CSDH), 2008, p.43).

The definition of SHP as a component of the overall Social Protection (SP) system is viewed broadly. Based on the core values of universal access, solidarity, equity and social justice, Hormansdörfer (2009), ILO (2014) and Sabates-Wheeler and Haddad (2005) stated that “SHP comprises instruments aimed at removing financial barriers preventing access to health services and protecting people from the impoverishing effects of medical expenditures” (Hormansdörfer, 2009; ILO, 2014; Sabates-Wheeler & Haddad, 2005). Nonetheless, Aniza, Moshiri, Radnaa and

Yondonjamts (2010) in their studies asserted that “SHP consists of various financing and organisational options intended to provide adequate benefits packages to protect against the risk of ill health and related financial burning and catastrophe” (Aniza et al., 2010).

The ILO defines SHP *“as a series of public or publicly organized and mandated private measures against social distress and economic loss or reduction of earnings, or the cost of necessary treatment that can result from ill health”* (ILO,2010a).

The WHO, on the other hand, describes SHP as “A system based on prepayment and financial risk pooling that ensures equitable access to essential quality health services at affordable prices, with contributions to the systems based on capacity to pay and benefits based on need; and a series of measures against ill health related cost of treatment, social distress, loss of productivity, and loss of earnings due to inability to work” (GTZ, 2010). The combined action GTZ-ILO-WHO, presents SHP as a diverse financing system to promote access to health services for a vast majority of people and reduce catastrophic health expenditures (GTZ-ILO-WHO, 2007).

SHP range from tax-funded based national health system to contribution mandatory social health insurance financed by employers and workers, and mandated or regulated private non-profit health insurance schemes as well as mutual and community- based non-profit health insurance schemes and various fee exemptions for health services (Aniza et al., 2010; Babajanian, 2013; Hormansdörfer, 2009; Scheil-Adlung, Asfaw, Booysen, Lamiraud, Reynaud, Juetting, & Muchiri, 2006).

Wagstaff, van Doorslaer and Paci (1991) in their studies showed that spending on medical care is higher, not lower, for the poorest persons as illnesses affect them more. The poorest persons’ ratio of family out-of-pocket payments for health services to total expenditure on health care was higher than the WHO proposed threshold of 15-20 percent (Schieber, Cheryl, Karima, & Lavado, 2012;

WHO, 2010). Hence, not investing and linking poorest households' members to SHP according to Alkenbrack (2011) and Hormansdörfer (2009) leads to terrific follow-up costs to life ranging from deteriorating health conditions, low standard of living and increasing poverty levels among members of the household. Consequently, SHP according to Hormansdörfer (2009) is an important tool for overcoming the vicious circle of poverty and ill health.

In a nutshell, each financing mechanism generally enables risk-sharing and risk-pooling of risks with others in the population, and several of them include cross subsidizations between the rich and poor thereby reducing the reliance on out of pocket payments (OOP) (Aniza et al., 2010; Boamah, 2015; Hormansdörfer, 2009).

3.5.2 The Effect of Health Insurance on Households' health status

Globally, the unresolved agitations for and against health insurance have been its effect on people's status and health system development. It is very essential to point out that regardless of the attached challenges, the effect health insurance has cannot be overemphasized. According to Levine (2008), in their best of knowledge, no study of health insurance in the developing countries demonstrates a rigorous causal correlation between households' health status and health insurance in relation to health spending, utilization or outcomes. However theories and collated studies on health insurance suggest health insurance affect households' health status in these cardinal sectors of life: access, financial protection, poverty, social inclusion, asset protection, and health care utilisation (Alkenbrack, 2011; Babajanian, 2013; Boamah, 2015; Giedion, Alfonso, & Díaz, 2013; Gupta, 2007; Levine, 2008; Ministry of Health [MOH], 2014; Misra, Awasthi, Singh, Agarwal, & Kumar, 2013; Mondal, Kanjilal, Peters, & Lucas, 2010 ; Wagstaff & Pradhan, 2005; Wagstaff, Lindelow, Jun, Ling, & Juncheng, 2007; Xu, Evans, Kawabata, Zeramardini, Klavus, & Murray, 2003; Xu,

Evans, Carrin, & Aguilar-Rivera, 2005).

One important aspect is its effect on households' healthcare access. In the developing world, health insurance was initiated as a remediation to promote access to healthcare services since the late 1990s (Boamah, 2015; Levine, 2008). Giedion et al. (2013) define *access* to healthcare as, "a measure of potential and actual entry for a given population into the health system". Generally, health insurance offers the poor increasing access to healthcare, which directly and indirectly change the health seeking behaviour of people (Alkenbrack, 2011; Babajanian, 2013; Boamah, 2015; Gupta, 2007; Levine, 2008). There is an indication that, health insurance improves access. An evaluative review by Giedion et al. (2013) disclosed couples of effects health insurance has on households' health status through healthcare access. The study results brought to light that in Bangladesh, health insurance is termed a "gift box" as it provides free access to maternal and child health services. This is a robust effect of health insurance discovered on households' health status (Giedion et al., 2013). Generally, health insurance is seen more to be the tunnel of accessing healthcare services, as it reduces financial barriers to access and promotes general access to healthcare.

Studies on effects of health insurance schemes on households' health status suffer dearth (Boahma, 2015; Giedion et al., 2013; MOH, 2014). As Giedion et al. (2013) reported, after scrutinizing 105 papers to evaluate the effect universal health coverage has on households' status, that effect of health insurance on household's health status is hard to detect and/or achieve than finance, access and utilization because of (a) evaluation methodological challenges and (b) health status is determined (measured) on a longer-term indirect outcome whereas that on access, utilization and finance is immediate. Nevertheless, same study reported couples of findings that attempted to go beyond what is expected. The good aspect is the evidence that whilst previous health insurance

was more issue specific, recent developments in health insurance have made it a bucket of health stock for the wellbeing of people (Boamah, 2015; Giedion et al., 2013; MoH, 2014; Levine, 2008). A special case is that of Ghana, where the benefit package of the NHIS covers about 95% of the diseases affecting Ghanaians (Boamah, 2015; MoH, 2014). Beyond disease package, it is attested that it affects the illness of people by reducing peoples' diseases and its associated risks (Giedion et al., 2013). This is very observable and affirmed by scholars like Levine (2008) and Wagstaff and Pradhan (2005). Levine (2008) confirmed in his literature review report that health insurance contributes to the welfare of individuals by improving health outcomes. Moreover, findings of Wagstaff and Pradhan's (2005) on Vietnam health insurance disclosed that Vietnam's health insurance (VHI) favourably impacted on the weight-for-age and height-for-age of young college children and on adults' body mass index. This corroborates with the anthropometric estimations of Wagstaff et al. (2007).

An asset is valuable and the only reliable fortune of most people, particularly the poorest. In the state of bad eventualities, poorest households rely on the sale of assets for remediation. Studies have confirmed that in the state of inability to pay for health bills, the indigents sell their properties to finance their health cost and because of this some choose not to insure than to insure and be poor (Misra et al., 2013; Mondal et al., 2010; Xu et al., 2003; Xu et al., 2005). Health insurance is proven to be a protection against such phenomenon; a protection of household assets (Giedion et al., 2013; Mondal et al., 2010; Levine, 2008). In reviewed studies, Levine (2008) reported that by contribution to welfare development of households, health insurance reduces household asset sales.

Most studies analyzing financial protection effect of health insurance on households' health status are more geared towards OOPHE and Catastrophe Health Expenditure (CHE) (Giedion et al.,

2013; Misra et al., 2013; Mondal et al., 2010; Wagstaff & Pradhan, 2005; Xu et al., 2003; Xu et al., 2005). Traditionally, these are the very key measurable indicators of financial effect of health insurance (Giedion et al., 2013). Not surprisingly, by minimising OOPHE and CHE, health insurance affects and improves the finances of households, particularly for the poor. Giedion et al. (2013) study has been instrumental in the study of effects of health insurance, particularly those of universal coverage objectives. They unfolded financial contributions of universal health insurance on the health status of individuals to include income support, premium subsidy, minimization of household debts in financing health expenditure, and minimisation of financial risks due to health spending. The studies go beyond OOPHE and CHE and added that for curative illnesses, there is a limit on the payment of medical bills under the benefit packages of the insurance scheme. In addition, there are no co-payments, co-insurance or deductibles on the part of subscribers of the NHIS (Boamah, 2015; Gupta, 2007; MOH, 2014). Levine (2008) highlighted in his reviewed literature on effect of health insurance that the health insurance minimises household new debts and covers the price of care after health shock. These functionalities improve and shield the wellbeing outcomes of the poor. Per contra, Wagstaff et al. (2007) impact evaluation study on the extension of health insurance to the rural population in China reported impact estimations that conflict the above findings. Their findings reported that health insurance scheme has no effect on cost per care and OOP spending; but rather, increase ownership of expensive equipment (facilities) among service providers.

Directly linked to the above, there is also evidence that health insurance affects poverty through OOPHE subsidization. Literature supports that health insurance minimises household poverty through alleviation of OOP health expenses and improved affordability (Alkenbrack, 2011; Boamah, 2015; Giedion et al., 2013; Gupta, 2007; Wagstaff & Pradhan, 2005). Babajanian (2013)

report on *Social Protection and its Contribution to Social Inclusion* outline a number of ways health insurance in the form of social protection affect the health status of the poor. First, health insurance offers income support and diverse ways of empowering the poor. On the global front, it is a containment of rising cost of healthcare services and a pro-poor framework for poverty alleviation (Babajanian, 2013). Most importantly, it is a protection instrument to promote effective and affordable healthcare and offered as a fund raising model for promoting free healthcare, peoples' wellbeing and health sector development (Babajanian, 2013). Further, Wagstaff and Pradhan (2005) study results established that health insurance causes a reduction in households' annual OOP for health expenditure which directly increases their annual income by letting them hold back their wages.

It is also revealed that the design and implementation of health insurance has offered immediate repercussions for promoting social inclusion, health care utilisation, and non-medical consumption to every individual, including the poorest (Babajanian, 2013; Giedion et al., 2013; Gupta, 2007; Wagstaff & Pradhan, 2005; Levine, 2008). Giedion et al. (2013) in their review report asserted that evidence in several studies demonstrate that health insurance affects the kind of care the insured use, the physician and the medical centre they visit, and the kind of non-medical products like food they consume. Similarly, Wagstaff and Pradhan (2005) researched into the effects of health insurance on health and nonmedical consumption in the developing countries. Their study was based on panel data and the analysis of the data established that health insurance impacts and increases household utilization of healthcare facilities like inpatient and outpatient departments; and, empowers them to substitute pharmacists as advisors and medicinal prescribers. Regarding consumption of nonmedical products, Wagstaff and Pradhan (2005) reported that health insurance causes a reduction of annual income, but increases their consumption on nonmedical products like

food. Supporting this, Levine's (2008) reported that health insurance smoothens consumption and increases quality and quantity of healthcare sought by individual insurers. Wagstaff et al. (2007) reported similar finding in China that health insurance has improved inpatient and outpatient utilization.

One unmentioned effect running through the effects health insurance has on household health status is that it impacts a positive health seeking behaviour (Giedion et al., 2013; Levine, 2008). Based on the overview of the above findings, the researcher aligns with what Levine (2008) asserted, 'rigorous evidence on the effect of insurance is scarce' and what Giedion et al. (2013) concluded in their review report that the impact health insurance has is extremely broad, complex and heterogeneous, which varies across sectors, groups, regions; and, the greatest effect is on the low-income, low-assets and rural population segments subscribed to insurance; however, attainment of such effects is very dependent on design scheme specifications. Adding to this, the sieved literature reports on effect of health insurance reveals that health insurance affects the poorest more.

3.5.3 Household Health Insurance Enrolment Decisions

3.5.3.1 Enrolment in Health Insurance

Insurance enrolment from its inception has been more understood as increasing insurers by registering more number of individuals as subscribers. It is synonymous of coverage whereby its focus is on the number (percentage) of a population registered into any health insurance scheme (Scheil-Adlung et al., 2006). According to Wagstaff et al. (2007) most developing countries have expanded insurance membership by relying on taxations to subsidize health insurance for families, informal sector (rural particularly) employees, and among the poor. In Vietnam, Philippines and

Colombia, for instance, the poorest are enrolled on health protection scheme at the expense of tax payers (Wagstaff et al., 2007; Scheil-Adlung et al., 2006). Aside these members, the rest of the members of the informal sector are free to choose to enrol or not enrol. Thus, enrolling into health insurance worldwide has been a choice than an imposition. People therefore enrol at their own expense. According to Wagstaff et al. (2007), in Mexico and China, those not involved in health insurance scheme for the formal sector voluntarily seek private insurance. Enrolment in insurance has therefore been seen as a promising health financing mechanism to improve access to healthcare services and providing financial resources for healthcare without the risk of catastrophic (Boamah, 2015; Dixon, Luginaah, & Mkandawire, 2014). Insurance membership has therefore proven to have comparative advantage over user-fees system. Hence, as countries strive to attain greater enrolment in health insurance, it is very essential to look more into the rate of enrolment, enrolment determinants and what is motivating households to enrol, as presented in the subsequent sections.

3.5.3.2 Rate of insurance enrolment

Studies on insurance enrolment rate are country-specific and dearth as the interest of most researchers fall on impact and determinants of enrolment in insurance. Conscious review of empirical literature unveils couples of studies that branched into enrolment rate, these were Aglobitse and Addai-Asante (2015), Alkenbrack (2011), Jehu-Appiah et al. (2011) and Kotoh and van der Geest (2016). Nonetheless, regarding specific findings, several studies report that enrolment rate of health insurance among vulnerable groups of the population is found to be widely low (see for example, Alkenbrack, 2011; Boateng, 2014; Dixon, 2014; Bonfrer, Breebaart & Van de Poel, 2016; Jehu-Appiah et al., 2011; Kotoh & van der Geest, 2016). For instance, Alkenbrack (2011) researched into enrolment in community-based health insurance with 14,804 individuals of

3000 households in 87 villages in Lao PDR. Upon discoveries in literature reports and CHI data results, she reported that health insurance enrolment is context-dependent which cut across nations. However, insurance coverage rate in most studied countries that have implemented CBHI are low. She cited the case of Lao PDR where approximately 1.7% of the population have been enrolled in CBHI after decades of CBHI pilot implementation as compared to 5.1% enrolled in health equity funds (HEFs) (Alkenbrack, Lindelow & Jacobs, 2013). In the case of China, Wagstaff et al. (2015) findings on the assessment of China's new cooperative medical system (NCMS) reported narrow enrolment (coverage) rate of 20 percent in NCMS.

Enrolment literature reveal that the poorest, of whom various health insurance schemes target, are the least to enrol (Alkenbrack, 2011; Jehu-Appiah et al., 2011). In ranking, the poorest had the lowest enrolment percentage of 17.6 percent, poor 31.3 percent, rich 46.4 percent and richest 44.4 percent (Kotoh & van der Geest, 2016). Thus, the poorest households' access to health insurance and coverage is largely minimal. In China, Wagstaff et al. (2007) reported 406 million people enrolled into cooperative medical system—China's primitive health insurance programme; an indication that healthcare is under utilization among the Chinese. Given high insurance levies and taxes and the hallobaloo about the insurance impact around the world, this monotonic rate raises more questions than answers.

Agreeably, a low enrolment rate among the poorest was widely attributed to poverty (Aglobitse & Addai-Asante, 2015; Jehu-Appiah et al., 2011; Kotoh & van der Geest, 2016). The reality is that income is a key barrier to enrolling in any health protection scheme. Alkenbrack (2011) impact evaluation study in Lao PDR reported that it is surprising that the poorest are always deemed vulnerable but they are the least enrolled in CBHI. Other factors were attributed to premium charges, service quality, traveling distance, availability of health facilities, discrimination in

services and health enrolment, poor health insurance awareness, information asymmetry, and inequality in membership (Aglobitse & Addai-Asante, 2015; Boamah, 2015; Nuhu, 2012). For instance, Jehu-Appiah et al. (2011) evaluated equity in enrolment and determinants of demand across socio-economic groups in the Ghanaian NHIS, and pointed out that inequality exists in enrolment. It is therefore identified that insurance enrolment is increasing but lowest for the poor and highest for the rich. Contrarily, the findings from the study of Boamah (2015) suggests otherwise. Boamah (2015) investigated the enrolment rate of urban poor in the Ghana NHIS in Ga East with data from 250 households in Grushi community. The aim was to estimate the enrolment level of the poor urbanites in the scheme. His study found obvious inequality in enrolment in NHIS where the enrolment was higher among the poor urbanites.

3.5.3.3 Ghana's NHIS enrolment rate

As at the end of December, 2015, enrolment by Ghanaians to the NHIS stood at 42.0 percent (Health Partner's Summit (MOH), 2016) as compared to 2014 figure of 10.55 million representing 40.0 % of the population (NHIA report, 2015). Although participating in the NHIS is mandatory for all Ghanaians by law, a greater percentage of the populace in the informal sector still remains uninsured as it is practically difficult to enforce enrolment. Again 70% of pregnant women, children and the aged in the LEAP households' who enjoy free registration under an exemption policy failed to renew their cards after expiry of their membership (LMU report, 2017).

As indicated in Table 3.1 membership of the NHIS increased from 8.22 million in 2011 to 11.3 million in 2015 showing an increase in enrolment over the years and representing 42% of the population. Table 3.1 presents NHIS membership trend and distribution from 2011 to 2015.

Table 3.1: Active NHIS membership Trend and Distribution.

Year	Active Membership ***New Methodology	Total percentage of the population	Informal sector	Indigents (18- 69)
2011	8,227,832	33%	36.4%	4.2%
2012	8,885,757	35%	35.5%	4.4%
2013	10,144,527	38%	33.6%	12.1%
2014	10,545,428	40%	30.7%	14.5%
2015	11,300,000	42%	29.7%	12.5%

*Figure is provisional

Source: *Health Partner's Summit (MoH), 2016; NHIA report, 2015.*

In practice, government is to reimburse health service providers for services rendered to insured clients under the NHIS through the premiums contributed by clients, taxes collected (NHIS levy), returns from investment, and parliamentary approvals from the consolidated fund (National Health Insurance Act, 2003 [Act 650]). Currently, the NHIS reimburses providers based on the following: (a). Ghana Diagnostic Related Groupings- G-DRGs (b). Fee- for Services (FFS) for medicines using a medicine tariff list (Owusu- Sekyere & Chiarrah, 2014)

3.5.3.4 Factors influencing Households' Insurance Enrolment Decisions

Health decisions are the heart of health activities (actions) by virtue of the fact that, “Almost everything that a human being does involves decisions; to theorize about decisions is almost the same as to theorize about human activities,” (Hansson, 1994, p.5). As Grossman's model uphold “people, to some extent, choose their level of health just as they choose the level of consumption of other "commodities" (Grossman, 1972a).

Obviously, purchasing (consuming) a product or service is a decision of the mind. The psychological directives of people is a direct determinant of their willingness to accept, adhere to, or reject a policy. Health insurance has consumable health and social services for the poor but the rate of its usage has been a flotation phenomenon. Several studies have attempted to offer distinctive explanations to that yet it remains generally limited. A special case is that of Schneider (2004) who reviewed several socio-economic literatures on theories of decision making under his study on “*Why the poor insure?*” Empirical findings of the study explained that several factors like risk aversion, utility level, financial risk (e.g. income disparity, credit, money lenders, assets, etc.), poverty, unaffordable premiums, were identified as reasons to describe insurance enrolment decisions among individuals in low-income environment; and these factors compel them to choose alternative mechanisms.

Similarly, premium affordability matters in enrolment decisions of households. A review section of Nuhu’s (2012) study on “*Sustainability of Health Insurance in Ghana*” mentioned affordability of contributions (premiums) as among the determinants that influence people to enrol on Ghana National Health Insurance Scheme (NHIS). The reason is that premium contribution rate is kept flat regardless (irrespective) of household size, which makes contribution percentage, in one district, Nkoranza, fall within 5% and 10% of their annual total household budgets (Nuhu, 2012). According to Nuhu (2012), this makes average contribution of households with large family size pay less than those with small family size.

Differential Charges (Premium Payments) are a matter of concern. Numerous studies have attempted to empirically analyze insurance charges and health decision making of the poor within the context of health insurance enrolment. For instance, Phelps (1973) identifies a positive relationship between health insurance demand and user fee levels (income) in his studies.

Therefore, where an individual has a higher level of illness, that individual is likely to enrol onto the scheme if he/she has income.

Knowing or not, health status (illness or adverse selections) influence much. Although health status or illness is expected to influence enrolment in insurance; the evidence regarding this relationship is mixed. Alkenbrack (2011) explains this *adverse selection* as a health situation whereby one with higher rates of sickness [knowing health status and its implications, hence 100% certain of the need for medication] is therefore highly likely to enrol in insurance. Empirically, Zhang and Wang (2008) in their studies found that the effect of health status on the enrolment decision of the CHI scheme was significant as people with chronic condition and poor health are likely to enrol onto the scheme. Alkenbrack (2011) as well reported same finding that the less healthy households are more insured than those of no health deformity. Her multiple health status measures confirm illness to be a driving enrolment in health insurance. Grossman (1972b) in description of his model affirmed that ‘illness’ has a positive relationship with health utilization. Contrarily, Jehu-Appiah et al. (2011) found no relationship between illness and enrolment. Similarly, Zhang and Wang (2008) in their study in China further found that almost all the variables related to health status (whether they have any doctor-diagnosed chronic diseases) and CHI wave were not significant to influence enrolment decisions. Assumptions of some theories like the HBM and EUT confirm that the healthy people are more likely to insure just to remain in health and avoid risk of getting ill. The findings of these scholars look more contradictory, conflicting and debating.

The *need for healthcare* was also identified to be a motivating factor. This was disclosed by Boamah (2015), Grossman (1972b) and Saksena, Antunes, Xu, Musango and Carrin (2010). Particularly, Boamah (2015) discovered in his study on enrolment rate in Ga with 250 households that ‘need’ for care motivates people to enrol into insurance. Further, Grossman (1975b) also relied

on his fashioned model to prove theoretically that ‘need’ has a positive correlation with health insurance enrolment.

Health Insurance *Type* and *Expenditure* were pointed out in the literature as among the determinants. Mishra, El-Osta and Ahearn (2012) suggested in their study on health care expenditure in United States that farm households who purchase health insurance directly from vendors were likely to spend more on healthcare than otherwise. Again, their study revealed that health insurance was negatively related to total health expenditures as the insured farm households spend more than uninsured farm households (Mishra et al., 2012). In supporting this, Alkenbrack (2011) cross-sectional study in Lao PDR reported that availability of alternative healthcare protections influence households to enrol in insurance.

Economist in practice applied econometrical concepts and models to prove that marginal utility and risk aversion are health insurance determinants (Alkenbrack, 2011; Grossman, 1972b; Muermann & Kremslehner, 2014). Under state of preferences, economic literature proves that marginal utility and degree of risk aversion impact demand for health insurance. Empirically, Muermann and Kremslehner (2014) reviewed systematically broad literature on *State-Dependent Preferences and Insurance Demand* and reported that the only empirical important factor that propels demand for health insurance under binary distribution (i.e. in a state of being sick or staying healthy) is, ‘*change in marginal utility of consumption as health deteriorates*’ This assertion did not standstill, according to them, rather it is insufficient to guarantee that people’s state-dependent preferences determine their insurance purchase than those under state-independent preference. A distinction drawn here is when marginal utility changes and health condition deteriorates, an individual with state dependent preferences under a binary distribution state or better still under fair premium will purchase insurance than those under state independent preferences; however,

the situation is otherwise under fixed or static loading factor. Not only marginal utility, but also how the degree of risk aversion alters across all state of health also determines whether to insure or not to insure (Muermann & Kremslehner, 2014). Alkenbrack (2011) as well found negative correlation existing between insurance enrolment and risk aversion, which contravene the EUT assumption that highly risk-averse households are more likely to enrol than households not risk averse.

Factors relating to demography and socioeconomics are hard to dissociate as together was identified to be a key determinant revealed in the various health, decision, economic, and insurance literature reports (Aglobitse & Addai-Asante, 2015; Amo, 2014; Antwi & Zhao, 2012; Boamah, 2015; Boateng & Awunyo-Vitor, 2013; Bonfrer et al., 2016; Jehu-Appiah et al., 2011; Sekyi, 2009; Sekyi, Aglobitse & Addai-Asante, 2015). Thus, countless studies have documented that people's insurance decisions do not only rely on preferences but as well depend on factors intrinsic and extrinsic to their control. These factors are known background information possessed by the agent whereas others are unknown (Hansson, 1994). That notwithstanding, the association between socio-economic status and enrolment is consistent and very significant across studies (Aglobitse & Addai-Asante, 2015; Amo, 2014; Antwi & Zhao, 2012; Boateng & Awunyo-Vitor, 2013; Boamah, 2015; Bonfrer et al., 2016; Jehu-Appiah et al., 2011; Sekyi, 2009; Sekyi, et al., 2015). Antwi and Zhao (2012) in their study on National Health Insurance (NHI) claims found out that risk factors such as age, sex, marital status, distance and length of stay at the health facility were important factors that influence enrolment decisions. Further, Boamah, (2015) in his study on *“enrolment of urban poor in the NHIS in the Grushi community of Ga East Municipality of the Greater Accra Region”* found out that factors such as sex, education, employment and health status to positively affect health insurance enrolment decision. In a related study, Boateng and Awunyo-

Vitor (2013) in their study on “*NHIS perceptions and factors influencing policy renewal in the Volta region*” indicate that the decision to enrol and remain in NHIS is significantly influenced by gender, marital status, religion and perception of health status. No that only, Jehu-Appiah et al., (2011) evaluated equity in enrolment and determinants of demand across socio-economic groups in the Ghanaian NHIS, and pointed out that significant differences exist in determinants of enrolment across socio-economic quintiles. Besides, Amo (2014) in his study on NHIS in the Dormaa Municipality, Ghana found gender, education, number of children, place of residence, employment and income as the most significantly factors that influenced the decision to enrol onto NHIS. In ranking NHIS membership rate in his study, Amo (2014) evidenced 39.5% for young adults (18-43 years) and 39.5% for people who live in the rural areas, and gender composition 55.7% for females and 44.3% for males. Much more, in a study by Sekyi (2009) and Sekyi, et al., (2015) on enrolment onto NHIS in Mfantseman Municipality, he revealed that households’ decision to enrol is shaped by factors such as age, occupation, place of residence, income and wealth, but literacy/education influences household enrolment.

Aglobitse and Addai-Asante’s (2015) binary logit model estimated same determinants (wealth, income, age, education, occupation, gender, place of residence, marital status, family size, and distance) in the Mfansteman Municipality in Ghana. Regarding occupation, he listed three occupation dummies: farming, artisan, and government employees to have strong probability to enrol; relating to distance, urbanites are more likely to enrol than non-urbanites; under income, urbanites are least (34.8% probabilistic) to enrol because they can afford OOP healthcare (Aglobitse & Addai-Asante, 2015). Alkenbrack (2011) impact evaluation on CBHI strongly supports these findings that decision to enrol in insurance is dependent on factors including education, socioeconomic status, and perception of insurance quality. She explained that, those

who perceive health insurance to be of poor quality are unlikely to enrol and vice versa (Alkenbrack, 2011). Grossman (1972a) also investigated demand for health and reported in regression results which are intuitively appealing, theoretically sound and testable. Regarding demographic variables, he illustrated both theoretically and empirically that: (a) schooling has a positive and statistically significant coefficient in the demand for health curve, (b) aging equally decrease health and increases medical expenditure, and (c) even on average, higher income certainly does not bring about higher levels of health. He concluded that, '*wage elasticity of health is positive and statistically significant*' and education and age impact health demand by altering the "price" of health (Grossman, 1972a; Grossman, 1972b).

Arguably, many demographic and socio-economic determinants have been identified. Yet it is interesting to know that some scholars discovered otherwise. A special contradictory case is that of Antwi and Zhao (2012) who argued that the risk factors: health status, billed charges and income level are not good factors that influenced the decision to enrol. Thus, except Antwi and Zhao (2012), there exist no contradictory findings in all various studies that identified these factors: age, marital status, education, occupation, income (wealth), family size, residency, and perception as quintessential predictors of the decision to enrol in NHIS.

The researcher in an unbiased stance allows Antwi and Zhao (2012) case to stand without undermining what most scholars have spotted because in specifications: age, gender, education, income, and family size have been a predominant socioeconomic and demographic factor in influencing households' decisions to enrol or purchase any health insurance. For instance, Nuhu's (2012) study manifested that households with five and more members have a greater probability of enrolling onto community health insurance than any other. In broad spectrum, among the demographic variables, age and income were found significantly outstanding in explaining health

insurance enrolment determinants (Amponsah, 2009; Antwi & Zhao, 2012; Boateng & Awunyor-Vitor, 2013; Blanchet et al., 2012; Hess, 2015; Jehu-Appiah et al., 2011; Nuhu, 2012). An empirical study by Blanchet et al. (2012) using propensity score matching (PSM) to evaluate the effect of NHIS on health care use showed that the main determinant of NHIS enrolment is age. The study for instance indicated that more than 45% of older women above 60 years were covered by the NHIS. In another study, Amponsah (2009) employing the binary logit model from a survey conducted in three districts in Ghana found that women aged over 40 years were more likely to participate in NHI. Contextual study by Hess (2015) on “*aging and decision making*” explained that in the area of health, the aging adults are consequential because of less time and fewer opportunities before them to make decisions. Hence, relative to the younger adults, the aged adults are willing to grasp the good of healthcare services by enrolling onto health insurance.

Like age, household income also appeared severally in the literature to be an essential factor in explaining enrolment decision determinants. According to Nuhu (2012) being in-between upper and lower income quartiles increase and decrease enrolment, respectively. According to the WHO (2003), comparing income levels, poor households have lower probability to join health insurance schemes (HIS) than rich households (quoted in Nuhu, 2012). Not that only, Jehu-Appiah et al. (2011) in their study on “*equity in enrolment and determinants of NHIS in Ghana*” found that there is unfairness in enrolment rate between the poorest population and the richest. Members of the household with medium or high income were more likely to enrol onto the scheme compared to the members of the poorest household. Furthermore, based on his study findings, Phelps (1973) revealed that income tend to be linked with other variable such as education level, urban areas and white households. Nonetheless, the author asserted that health insurance demand correlates with income.

Concerns have been raised about the impact of this income differentiation. One is from Jehu-Appiah et al. (2011) who argued that income disparity makes the rich have easy access to the scheme relative to the poor. In fact, income is the heart of poverty and both are inseparable. Insurance enrolment literature demonstrates that there is a direct relationship between poverty and insurance enrolment. Alkenbrack (2011) examined household and firm insurance enrolment determinants and utilisation with a sample of 14,804 individuals (i.e. 3000 households) and 130 private firms in Lao PDR. Her econometric and qualitative analyses reported a finding that the least people probable to enrol in health insurance are the poor; and of the poor, those enrolled incur greater OOPe than the uninsured poor. In broad scope of econometric and non-econometric analyses, it is therefore espoused that characteristic features (variables) of demography, social and economic dimensions of life are strong determinants and dominant among the various factors in determining *where, when, how, and which* health insurance to enrol. All these mentioned variables play a strong role in households' decision to enrol or not to enrol onto health insurance scheme.

3.5.3.5 Increasing Insurance Enrolment (Membership)

Increasing insurance enrolment is simply by addressing barriers to insurance enrolment. Deciphering, insurance enrolment literature highlights exemptions to be one best factor for increasing household enrolment onto health insurance. According to Nuhu (2012) one vital tactic of increasing insurance membership of the poor household is introducing exemptions in any social protection scheme.

Scholars were in support of introduction of pro-poor policy in health protection scheme. It is essential in increasing health insurance enrolments (Giedion et al., 2015; Nuhu, 2012). Health insurance is there to protect individuals from financial and health risks, when one falls ill. With this, the poor households remain the key targets in most health insurance policies and

interventions. Studies reveal that pro-poor policy creates differential contributions among insurance members. One best insurance scheme that provides this from its inception is Bangladesh's Gonosasthya Kendra Scheme, which offers differentiations in user fees for medical consultations, renewals, for the poor and rich enrolees (Nuhu, 2012). Again, the scheme offers the poor households 10% contribution of the total contribution of the rich households (Nuhu, 2012). Nuhu (2012) withhold that pro-poor creates affordability by minimizing healthcare payments.

It is demonstrated that diversification in healthcare services under insurance is not of the best interest in insurance enrolment (Aglobitse & Addai-Asante, 2015; Alkenbrack, 2011). It creates distortions as it demeans the very essence of motivating people to be insured. In this respect, Alkenbrack (2011) based on his findings recommends that improvement in all strategies towards quality and equity in insurance services and equal treatment between the insured and uninsured households are very significant in increasing enrolment in the future.

Many studies suggest public education policy towards insurance enrolment (Wagstaff & Pradhan, 2005; Wagstaff et al., 2007). Every health insurance targets the public, so the public being the heart of health insurance demands a level of enlightenment to orient their enrolment decisions. This is agreed by many studies on health enrolment issues (Aglobitse & Addai-Asante, 2015; Scheil-Adlung et al., 2006; Wagstaff & Pradhan, 2005; Wagstaff et al., 2007). Aglobitse and Addai-Asante (2015) shed light on the potential approaches of dealing with insurance enrolment expansion after exploring the enrolment on health insurance scheme in Ghana with a sample of 384 households. Their policy recommendation bores to organization of appropriate formal and informal education packages on health insurance enrolment for households and citizenry.

Concerning financial remediation, findings of a couple of studies suggest premium subsidization, particularly for the poorest households (Aglobitse & Addai-Asante, 2015; Boamah, 2015;

Muermann & Kremslehner, 2014). For instance, the results of Aglobitse and Addai-Asante (2015) recommend *targeted demand-side subsidy* for the indigents for them to participate fully. According to Aglobitse and Addai-Asante (2015) health insurance is not cost-free hence demands some minimum income level that most indigents do not possess; therefore, providing premium subsidies for citizenry will in the long run improve their welfare immensely and facilitate the attainment of universal health coverage Boamah (2015), based on his study's findings recommends premium exemption for the poor particularly urban poor.

Increasing universal healthcare coverage is the least mentioned but has been the topmost agenda of most insurance enrolment strategies that literature listed (Babajanian, 2013; Boamah, 2015; Gupta, 2007; Muermann & Kremslehner, 2014; Scheil-Adlung et al., 2006). Scheil-Adlung et al (2006) in their study on the “*impact of social health protection on access to health care, health expenditure and impoverishment*” suggested expansion of health insurance coverage to the doorstep of the masses. Not those only, Muermann and Kremslehner (2014) also reported that health insurance is at its best when the masses are covered. They explained that, insurance coverage is a necessity for the effectiveness and full impact of any insurance of health. Regarding coverage, Alkenbrack (2011) therefore advised that as nations strive to attain greater health protection (insurance) coverage, there is a need to learn more concerning how health insurance schemes could be strengthened so as to increase: (a) subscription levels, and (b) what is motivating (encouraging) households to enrol.

3.5.3.6 Barriers to health insurance enrolment

Studies investigating determinants of health insurance enrolment identified some very challenging barriers that impede enrolment in health insurance. For instance, Dixon (2014) employed both

quantitative and qualitative techniques and found out that poverty is not only one of many determinants driving inequality in enrolment, but also poor education and poor policy design as well. The study further reported that, although the Ghana NHIS is extremely well liked and its benefits are extensively valued by participants, enrolling in the NHIS remains challenging among rural poorest population due to the requirement for cash to pay for NHIS premiums. While Kusi et al. (2015) in their study on “*affordability of the NHIS contribution in Ghana*” found out that affordability of health insurance among households with low socio-economic status and large household size is the most critical barrier to NHIS enrolment. These households according to the author constitute 29% of the total households. Elaborating on barriers, Aglobitse and Addai-Asante (2015) and Alkenbrack (2011) studies on enrolment determinants unravelled poor provision of healthcare services to be a negative significant enrolment indicator, which either attracts or repel people of insurance interest. Alkenbrack (2011) reported that poor quality of healthcare services is very strong and a major factor propelling subscribers out of CBHI scheme in Lao PDR. Adding to the findings of Alkenbrack (2011), she again reported that differential treatment between the OOP patients (payee) and the insured (non-payee) remains a challenge to insurance enrolment. Well reported fact is that of Boateng (2014), who investigated the factors associated with rural farmers’ decision to enrol onto Ghana’s NHIS. The study showed that health insurance for the vulnerable segments of the population was widely low, and this was not as a result of affordability per se, but the long distance, long queues at the District Office of the NHIS and the non-regularity of the community health insurance agents at the communities affected enrolment and renewal of health insurance. Boamah (2015), who used cross-sectional design to investigate the level of enrolment of urban poor in the implemented Ghana NHIS, with 250 households in the Grushi community of Ga East Municipality, reported a range of barriers such as high premium charges,

distant health facilities, payment modalities of premium charges, behaviour towards healthcare, poor quality of healthcare, and residency to have a strong impediment to Ghana NHIS enrolment. After reviewing broad literature on challenges of health enrolment, Alkenbrack (2011) pointed out that health insurance enrolment is distorted by information asymmetry in the health insurance market and adverse selection. She expounded that in a state of flat premium rates, as it is in Lao PDR, adverse selection caused by information asymmetry increase the cost of services under insurance scheme which far exceeds revenue collection hence imposing threats on financial sustainability of the scheme.

Financial insecurity is seen to be a threat to insurance enrolment as literature portray. Application of a multi-level perspective as a conceptual and methodological tool to examine why the NHIS is not reaching the poor as envisaged, Kotoh and van der Geest (2016) brought to bear that because of financial risks the poorest had the lowest enrolment rate. A low enrolment rate among the poorest was widely attributed to poverty (Kotoh & van der Geest, 2016). The reality is that income is a key barrier to enrolment onto any health protection scheme (Aglobitse & Addai-Asante, 2015; Alkenbrack, 2011). Alkenbrack (2011) impact evaluation study in Lao PDR reported that it is surprising that the poorest are always vulnerable but they are the least enrolled in CBHI. Aglobitse and Addai-Asante (2015) identified improper education on insurance for the indigents and households as a barrier to enrolment increment.

3.5.4 Other Health Related Outcomes: Consumption, Healthcare use and Out-of-Pocket Expenditure Dimensions

Behaviour towards health has been very diverse and unpredictable. Determinants (behaviour influencing factors) manifest that behaviours that affect peoples' health drive their willingness or

unwillingness to perform those behaviours. This has become a key area in a considerable body of health research (Conner & Norman, 2005; 2015). Broad definition of health behaviour according to Conner and Norman (2015, p. 2) is “any undertaken action purposely for averting or identifying illness or for advancing health and well-being.” This broad definition includes any health-improving behaviour such as medical service usage (example medical specialist visitations, vaccination, health screening, etc.), compliance (adherence) to medication regimens (e.g. diabetic, dietary, antihypertensive treatments) and personal (self-directed) health behaviours (example diet, smoking, exercise, boozing, etc.) (Conner & Norman, 2005; 2015). Thus, health behaviour concerns healthy lifestyle, which tracts health consumption patterns and service utilisation and expenses. There are narrow studies on such dimensions (utilization, expenses and consumption pattern) in the examination of peoples’ behaviour towards health services and its outcomes (interrelationship) (Wagstaff et al., 2007; Levine, 2008).

Nonetheless, health-behaviour and health related outcomes perfectly describe consumption, healthcare use and expenses of healthcare services under insurance coverage. Since, health insurance is a behavioural process and choice, which brings forth its related health outcomes. In this perspective, studies on health behaviour and health outcomes report that good health behaviour is associated with long living and low morbidity. According to Conner and Norman (2015), health behaviour could have an affirmative impact on life quality by holding onto the onset of any chronic disease and expanding lifespan. They demonstrated that people could contribute positively to their own wellbeing and health by engaging in health enhancing practices like being on diet, exercising, attending health screening, vaccination, and clinic attendance (Conner & Norman, 2015). Also, several authors’ reported findings that establish a direct correlation between health behaviour and

quality lifestyle (Alkenbrack, 2011; Conner & Norman, 2015; Wagstaff et al., 2007). But the problem lies on the behavioural determinants that could yield this quality lifestyle.

Health behaviour determinants are well outlined in health literature. For instance, Conner and Norman (2015)'s deep study on *Predicting and Changing Health Behaviour* reported that intrinsic factors such as demographic variables (e.g. age, socioeconomic, gender, and ethnic status) demonstrate a perfect relationship with health behaviour performance (Conner & Norman, 2005; 2015). They added in their broad study report that the youth, rich, well-educated folks under low stress levels with high levels of social assistance are likely to practice health-enhancing conducts (Conner & Norman, 2015). Theories such as HBM, EUT, PT, and the Theory of Planned behaviour have profoundly detailed the factors [including perceived ill threats, uncertainty, risk averse, marginal utility and cues to action) that strongly determine behaviour towards health (Abraham & Sheeran, 2015; Ahmed et al., 2014; Cesnaviciene & Gudzinskiene, 2014; de Castro et al., 2016; Hansson, 1994; Kahneman & Tversky, 1979; Krcál et al., 2016; Marquis & Holmer, 1996; Muermann & Kremslehner, 2014; Suhonen, 2007; Schneider, 2004; Suhonen, 2007; Sutton, 2002; Wakker, 2008; World Health Organization, 2012; Zank & Wakker, 1999). However, the rarity is the mixed factors that determine people's consumption pattern, healthcare use and expenditure of healthcare services under protection schemes. The impression given is, few works are done regarding healthcare utilization, consumption, and expenditure pattern.

3.5.4.1 Consumption Dimension under Health Insurance

Consumption habits describes well the quality of health lifestyle. Literature in this area describe *consumption* to directly relate to non-medical intake (non-medical consumption) like food and other goods and services as an effect caused by insurance usage (Conner & Norman, 2015). Contrarily, Giedion et al. (2015) report it to be more of intake of health preventive services (i.e.

health service consumption/medical consumption). It is therefore not clearly established how scholars define consumption in health insurance concept. Most studies on healthcare that discuss consumption see consumption as “medical consumption” and “non-medical consumption”. Levine (2008) in his review studies on the “*Effects and selection into health insurance*” and reported that by contribution to welfare development of households’ health insurance smoothens consumption. Though, he could not explicitly explain the consumption in this context he established that under insurance, feeding by the insured are made easier because of depletion of additional expenses from health services. Further, Sorensen, Stoddard, Hunt, Hebert, Ockene, Avrunin, Himmelstein and Hammond (1998) in their study to assess the “*effects of a health protection intervention on behaviour Change*” in 24 manufacturing sites in Massachusetts found significant differences between the intervention and control work sites. Their mixed-model analysis results showed significant behavioural change particularly in percentage (2.3% vs 1.5% kcal) of calories consumed and in percentage (10% against 4%) of consumption of vegetables and fruits. Although, they observed no essential effects for smoking, they witnessed vast significant effect of consumption of fibre among the unskilled and skilled workers (Sorensen et al., 1998). Subject to this finding, Wagstaff and Pradhan (2005) using PSM with a double-difference estimator also manifested that VHI causes an increase in non-medical household consumption, including food consumption, but mostly non-food consumption such as expenditures on education, electricity, water, garbage collection, savings, and other consumer durables (goods). The authors estimated that higher VHI-induced increase in non-medical consumption than even OOPE (Wagstaff & Pradhan, 2005). Upon this finding, some scholars like Giedion et al. (2015), Sorensen et al. (1998) and Wagstaff & Pradhan (2005) firmly asserted that health insurance impact more on households’ non-medical consumption than medical consumption, and has its impact quite extremely on

household's OOP spending. For instance, Wagstaff and Yu (2007) discovered that health insurance appears to have high significant impact on OOP payments for non-food consumption among households with lowest income (cited in Giedion et al., 2015). The effect gained from health insurance on non-health consumption seems to be much more than that in Burkina Faso, where health insurance effect becomes greater in times of economic crisis (Parmar et al., 2011, quoted in Giedion et al., 2015). This is very consistent and conform with the notion that households withdraw their consumption substantially when they feel lack of health insurance could expose them to risk of high OOP like catastrophic expenses (Wagstaff & Pradhan, 2005).

3.5.4.2 Healthcare use Dimension under Health Insurance

Several studies have reported evidentially that insurance membership promotes higher healthcare use. Studies that offer details on healthcare utilization among the poor include that of Alkenbrack (2011), Boamah (2015), Trujillo, Portillo and Venon (2005), Wagstaff (2007) and Wagstaff & Pradhan (2005). To begin with, Scheil-Adlung et al. (2006) defined *Health service use* as a measure of ratio of people using healthcare services to those reporting illnesses; which varies in time frame from country to country. Empirical studies reveal diverse ways people use healthcare resources. A special case is that of Alkenbrack (2011), who examined community-based health insurance (CBHI) and SHI to determine household and firm insurance enrolment determinants and the impact CBHI and SHI enrolment have on utilisation and financial protection with cross-sectional case comparison design and a sample of 14,804 individuals in 3000 households and 130 private firms in 18 villages in Lao PDR. She applied various econometric and qualitative impact evaluation methods and reported based on her analytical findings that there is a positive effect of CBHI on health utilisation. Her reported finding indicates that health insurance increases

healthcare utilization among the beneficiaries (Alkenbrack, 2011). This finding is very consistent in several different studies of same phenomenon. Example is that of the Saksena et al. (2010) who studied the effect of mutual health insurance (MHI) on health services utilization and financial risk protection in Rwanda, with a national integrated living condition survey (NILCS) data from 6800 households (34,000 individuals) from 2005 to 2006 and analysed it regressionally. Their finding from the regression analyses of the relation between households' healthcare uses and insurance coverage was that, MHI is significantly associated with increased utilization of health services. Thus, individual households with insurance cover use health services twice as much as those not insured. Further, similar finding was disclosed by Gouda, Hodge, Bermejo, Zeck and Jimenez-Soto (2016), who investigated “*the impact of Healthcare Insurance on the utilisation of Facility-Based Delivery(FBD) for Child birth*” in the Philippines. Using PSM along with alternative matching techniques their study revealed that insured women were more likely to used FBD (between 5 to 10 percent) than for those women without insurance coverage. The study results further showed that access to FBD is more pronounced amongst rural poor women who have their health insurance coverage is subsidized (Gouda et al., 2016).

Wang, Temsah and Mallick (2017) conducted a study in Ghana, Indonesia and Rwanda and employing PSM, the authors found that health insurance has significant positive effects on use of FBD than use of antenatal care in each of the three countries. However, on effect of health insurance on all four measures selected in the study, the authors found that Indonesia stands out (Wang et al., 2017). Trying to bring out evidence of their stance, van der Wielen, Channon and Falkingham (2018) using health insurance, public health, health policy, health systems evaluation, health systems as keywords showed that even though inequalities remain in enrolment, NHIS coverage does increase healthcare utilisation among rural older adults. In the outpatient health care,

the poor are still at a great disadvantage in their use of health services and benefits (van der Wielen et al., 2018). Nevertheless, a study conducted in Colombia by Trujillo et al. (2005) revealed that the insurance program has a positive effect on medical care. Thus, health insurance coverage among the country's poor and uninsured lead to an increased use in medical care. The findings of Trujillo et al. (2005) is consistent with the study of Aggarwal (2010) and Wagstaff (2007). Using PSM, Wagstaff (2007) reported that in Vietnam the SHI program led to an increase in the use of services, particularly inpatient health care. Again, Aggarwal (2010) in his study in India also found that insured cooperative members have increased number of outpatient health care visits and surgeries as compared to the uninsured cooperatives members.

Nonetheless, King, Gakidou, Imai, Lakin, Moore, Nall, Ravishankar, Vargas, Tellez-Rojo, Avila and Llamas (2009) found that health insurance had no effect on health care utilization. For example, in their studies the authors found that an insurance targeting the poor in Mexico did not have any effects on health care use nor on health but out-of-pocket expenditures and the risk of catastrophic expenditures decreased, especially among the poor.

Thus, the empirical evidence on the effect of health insurance on health care use is more mixed. Some studies (Aggarwal 2010; Gouda et al., 2016; Trujillo et al., 2005; Wagstaff, 2007; Wang et al., 2017) revealed that health insurance offers the poor increasing access to healthcare services, which directly and indirectly change the health seeking behaviour of them. This implies that, insurance coverage increases access to healthcare, hence insurance membership has a direct significant effect on healthcare use. On this note, the scholars Saksena, Antunes, Xu, Musango and Carrin concluded that insurance is associated with higher healthcare utilization and will surely be beneficial to advancing healthcare access (Saksena et al., 2010). A finding that has been contended by Ali, Cookson and Dusheiko (2017). Ali et al. (2017) used household survey data that were

collected of 1,101 children and 1,650 adults and also concluded that insurers have high possibility of seeking health services than non-insurers.

However, barriers such as *residency* and *distance* to health facilities are reported to be creating diversions in utilizing health facilities and services among population settings. A perfect scenario is that of Boamah (2015) who researched into enrolment rate of urban poor onto NHIS in Ga in Greater Accra region of Ghana with 250 households, and reported that utilisation of health services varies from urban and rural setting. To him, the urbanites use health facilities more than the rural poor because they obtain timely healthcare services compared to the villagers in the rural setting (Boamah, 2015). Also, Wagstaff et al. (2015) assessment of China's NCMS reported similarly that the scheme is not making any impact in the use of healthcare facilities among those living in rural settings, however very favourable for the urbanites in the 12 selected counties. He therefore concluded based on his reviewed literature findings that a number of studies have demonstrated that people utilize medical services distinctively, particularly in their place of residence.

With this, Giedion et al. (2013) reported that existence of health coverage influence people about the kind of healthcare they use - from self-medication to formal care attendance. Further explanation denouncing uniformity offered by Alkenbrack (2011) in her literature report was that it is not always the case that access increment via health insurance [in especially most developing countries] could be uniform, simply because of costs and barriers [such as transportation cost, distance to health facility of using healthcare] of using healthcare.

However, from utilization behaviour literature, these disparities do not end with geographical distance or settlement location but also reflect in the usage of health facilities among children and adults. This was evidenced in the study of Wagstaff and Pradhan (2005). The authors reported findings were that health facilities usage increases among young children. In addition, young

children substitute the use of pharmacists as reps of advice and non-prescribed medicines for suppliers of medicines recommended by health professionals (Wagstaff & Pradhan, 2005). Concerning older children and adults, their results marked increment in the use of hospital outpatient and inpatient departments (Wagstaff & Pradhan, 2005).

Interestingly, disparity in utilization of healthcare services is more extensive particularly among the poor and the rich. This not because insurance impact poverty (Sekyi, 2009) but other empirical studies have also brought to bear that the existing utilization gap between the rich and the poor and the insured and uninsured can be resolved (decreased) by insurance cover (Saksena, Antunes, Xu, Musango, & Carrin, 2010). Based on their regression results the authors reported that insurance membership does not only increase the use of health services but also explains the pattern of healthcare use among the poor and the rich and among the insured and uninsured. For instance, Saksena et al. (2010) regression modelling in the study of Rwanda's MHI has shown that insurance cover has higher effects on the use of health services among households in lower (poorest) quintiles than those in the highest (richest) quintiles. Moreover, their model explained that the insured poor use health services more than the uninsured (Saksena et al., 2010). This means, insurance membership dissolves healthcare accessibility bottlenecks for the poor. It is therefore understood without refutation that under insurance scheme, the use of health services differs greatly among income groups and insurance status of households.

3.5.4.3 Out-of-Pocket Health Expenditure (OOPHE) Dimension under Health Insurance

Pocket financial spending on health services is not always easy to cope with among all categories of a population (Saksena et al., 2010). However, it is a very prevalent feature among the middle and low income countries because financial protection for the population of such countries remains

inadequate; even those insured still incur high OOPHE (Aryeetey et al., 2016). Existence of inadequate financial protection compels more households to spend more on health services from their pocket. This has been proven in several studies including that of Karagiannaki (2009), Aryeetey et al. (2016), and Sekyi (2009).

Recent study by Aryeetey et al (2016) on “*the effect of NHIS on household OOPHE, catastrophic expenditure and poverty*” in the Eastern and Central Regions of Ghana during the period 2009 - 2011 found out that due to OOPHE, 7 to 8 % of 1,176 households’ enrolled onto health insurance incurred CHE whereas the 2,142 of households’ not enrolled incurred 29 to 36%. The authors, further reported that health insurance coverage minimised OOPHE by 86 percent among insured households. Their study also revealed a reduced average OOPHE for out-patient healthcare services for insured than the uninsured, but higher average OOPHE on in-patient services for the insured than the uninsured (Aryeetey et al., 2016). With this, Aryeetey et al. (2016) explained that, despite the protection cover of health insurance, sometimes there is a possibility of experiencing significant OOPHE for in-patient health services.

It is not only Aryeetey et al. (2016) who have reported that enrolment onto health insurance reduces OOPHE but also authors such as Giovanis and Ozdamar (2016), Mekonen, Gebregziabher and Teferra (2018), Nguyen, Rajkotia and Wang (2011), Saksena et al. (2010) Sekyi (2009) and Wirtz, Santa-Ana-Tellez, Servan-Mori and Avila-Burgos (2012). For instance, Mekonen et al (2018) using average treatment effect on the treated (ATT) to estimate catastrophic health expenditure between insured and uninsured households in Northeast Ethiopia, revealed that among the households with 20% catastrophic health expenditure, 4.41% were insured while the remaining 15.64% were uninsured (Mekonen et al., 2018). This implies that OOPHE will be minimised among individual households’ members.

Again, using data from Nkoransa and Offinso districts, Nguyen et al. (2011) conducted a study on the “financial protection effect of NHIS in Ghana” reported that NHIS is able to reduce the possibility of incurring high cost on health care use. Yet, the insured persons still incurred out-of-pocket payment for care from uncovered drugs and diagnostic tests at health care facilities. The authors further concluded that insured persons paid less on healthcare use as compared to the uninsured which normally led to adverse selection in health insurance.

Using PSM to explore the catastrophic health expenditures in Turkey Giovanis and Ozdamar (2016) showed that individuals who have health insurance coverage are less likely to incur out-of-pocket health expenditures as compare to individuals with private or without health insurance This signifies that individual households’ members who have NHIS are more likely to minimise OOPHE than individuals with private or without health insurance.

In a study undertaken by Wirtz, Santa-Ana-Tellez, Servan-Mori and Avila-Burgos (2012) in Mexico using PSM procedure, findings showed that households with health insurance coverage incur lower out of pocket expenditure (OOPE) for medicines than uninsured households. This suggests that subscription to NHIS will reduce expenditures on medicines for insured households’ members.

Again, using health insurance, impact evaluation, South Africa , health care utilisation and out-of-pocket payments as keywords, Ataguba and Goudge (2012) found that enrolment onto insurance scheme does not reduce OOPHEs for scheme members as compared to uninsured. However, findings of Aryeetey et al. (2016), Giovanis and Ozdamar (2016), Mekonen et al (2018), Nguyen et al. (2011) and Saksena et al. (2010) have shown that insurance coverage significantly increase the use healthcare services and reduces OOPHE. From this, the researcher is convinced that,

insurance membership is strong in determining the rate of OOPHE but there is still the possibility of incurring OOPHE.

3.5.4.3.1 Causes of Out-of-Pocket Health Expenditures (OOPHE)

Studies have also shown that, a mixture of factors such as conditions excluded from insurance benefits, partial insurance coverage packages, co-payment, fast-treatment, and indebtedness, contributed to most of these OOPHEs incurred particularly by the insured people (Alkenbrack, 2011; Anderson, Dobkin & Gross, 2011; Karagiannaki, 2009; Saksena et al., 2010; Sekyi, 2009). For instance, Aryeetey et al. (2016) reported on their study about Ghana's NHIS that, the high OOPHE in-patient healthcare services incurred by the insured was due to excluded conditions in the scheme and prescription to purchase even medicines in the insurance benefit package with the reason that those prescribed medicines are not in stock hence must be paid for privately. Another major reason given was the debt rate of the scheme due to government's inability to pay private providers to stock medicines (Aryeetey et al., 2016). Indeed, Ghana's NHIS is in debt, fairly comprehensive, and does not cover all diseases and health services as anticipated. This finding is also reported by Alkenbrack (2011), Anderson et al. (2011), Karagiannaki (2009), Saksena et al. (2010) and Sekyi (2009).

Directly linked to the above, fast-treatment of illness has also been identified to have influenced the occurrence of OOPHE among the insured (Alkenbrack, 2011; Anderson et al., 2011; Aryeetey et al., 2016). According to Aryeetey et al. (2016), in Ghana, beneficiaries of NHIS sometimes deliberately leave their insurance cards at home to seek quick medical treatment that requires direct pocket payment. This results of Alkenbrack (2011) and Anderson et al. (2011) also affirm the presence of the influence of fast-treatment of illness on incidence of OOPHE among the insured.

Moreover, Karagiannaki (2009) and Saksena et al (2010) found out that severity of illness makes people incur extra cost which results to OOPHE. Statistical modelling results of Karagiannaki (2009) revealed that when people perceive or feel their health condition to be severe, they are quick to spend more OOPHE to receive treatments.

Lesson learnt

It is a source of worry when we look at the studies that have reported on health insurance effect on healthcare expenses, health care use and consumption pattern. There is a clear evidence to suggest that such literature is deficient in full description of how insurers use health services and resources let alone its effect on OOPHE and consumption of medical and non-medicinal products and services. Thus, several studies do not provide in full spectrum particularly the various utilisation and consumption variables to describe well how people use health insurance and how it affects their non-medical consumption patterns. As some studies limit themselves to health facility visitation, including inpatient and outpatient care, others concern themselves only with preventive care and benefit outcomes of using health resources. A greater proportion of the reviewed studies do not provide detailed results and discussion on how people (insured and uninsured) generally use healthcare resources in relation to consumption. These little conflicting findings affirm that this is an almost unexplored area in the impact of health insurance on household consumption pattern and utilization. Thus, an exposition of literature gaps but in general, lesson from the above sections is that expansion of insurance coverage is a direct expansion of health services use and expansion of health financial risk protection. Hence, there is a strong conviction that insurance membership has a strong impact on access to healthcare, which can improve the health conditions and financial expenses of the poorest households.

3.5.5 Health insurance, Out-of-Pocket Health Expenditure (OOPHE), and Poverty

Interrelations

Evidence from broad CHE literature manifest firmly that OOPHE is strongly a poverty driver (Aregbeshola, & Khan, 2018a; Kronenberg & Barros, 2014; Misra et al., 2013; Xu et al., 2003). A deep review of CHE literature by Kronenberg and Barros (2014) disclosed that OOPHE is an impoverishment (poverty) driver. Their explanation meant OOPHE force households into poverty through payment of catastrophic shares from their income. Nevertheless, several studies have demonstrated that this problem exists everywhere; in America (United State of America), Europe (Portugal, Ireland, etc.), Asia (Iraq, India, Pakistan, etc.) and Africa (Nigeria, Cote Di'voire, Cameroun, Ghana, etc.) (Aregbeshola, & Khan, 2018a; Kronenberg & Barros, 2014; Misra et al., 2013; Mondal et al., 2010; Xu et al., 2003).

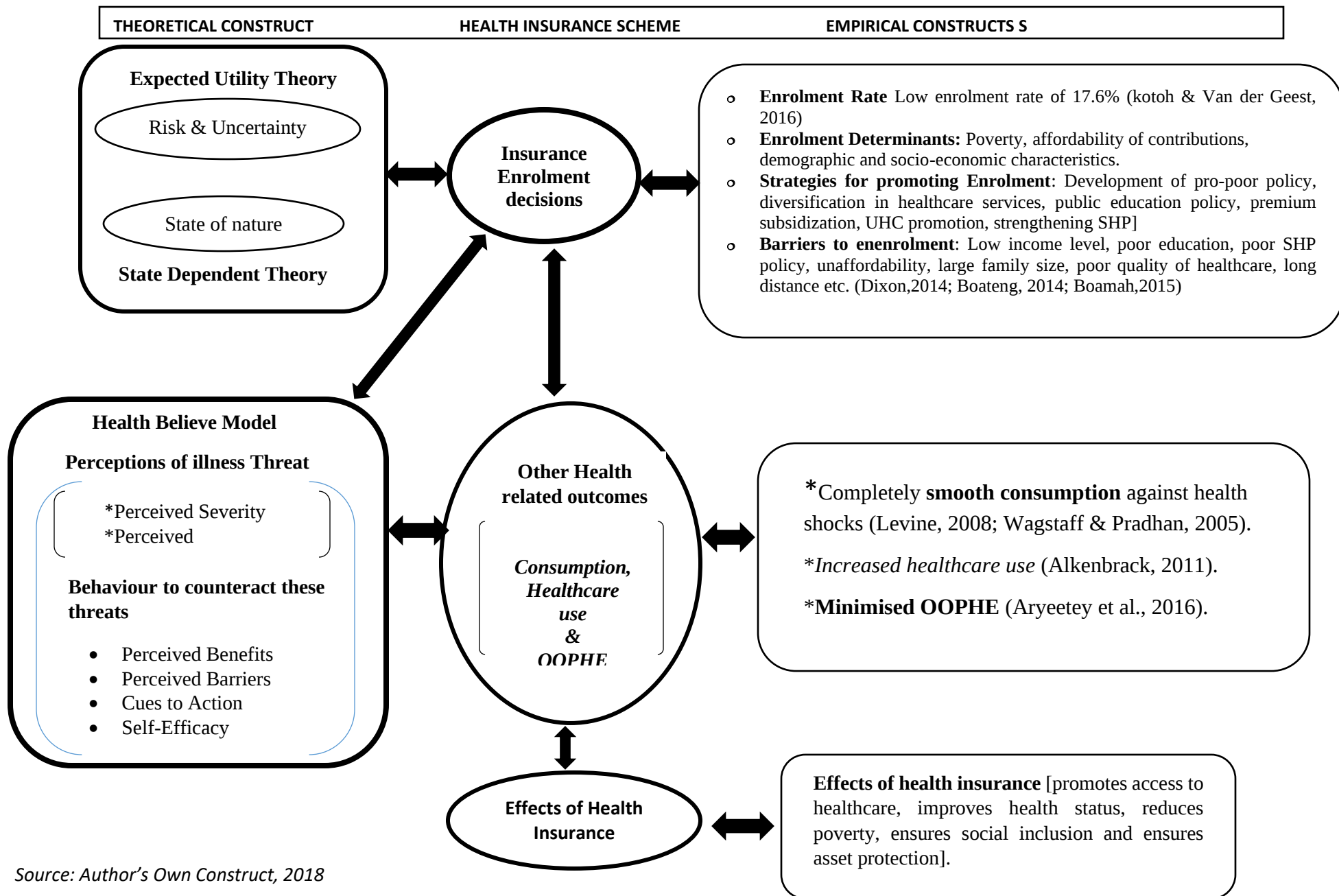
Undoubtedly, it is vividly demonstrated in here a strong relationship between OOPHE and poverty. Alkenbrack (2011) evidenced a strong fact about this relationship when she examined household and firm insurance enrolment determinants and utilisation with a sample of 14,804 individuals (3000 households) and 130 private firms in Lao PDR. The author found out that though the poor are the least people probable to be enroled onto health insurance, among them, those enroled onto insurance incur greater OOPHE than the uninsured poor. In supporting this, Aryeetey et al. (2016) also reported from their regression results on the effect of NHIS on households OOPHE, poverty and CE that, OOPHE drove about 7 to 18 % of the entire insured households to incur CE, which increased from 29 to 36% for the uninsured. Also, OOPHE led about 3 to 5% of both uninsured and insured households into poverty (Aryeetey et al., 2016). Their study showed that, the main force that drive households further into poverty is OOPHE on in-patient healthcare services (Aryeetey et al., 2016). Meaning that, insurance cover does not remove entirely OOPHE let alone

CE. Could this be a case that the uninsured poor households are better off than the insured poor households? Although, it is not to be addressed but very quintessential identifying this gap.

In the study of Xu et al., (2003), they reported that people will prefer to avoid OOPHE on healthcare than attempt to become poor. Reason provided was that uninsured households tend to incur two potential effects by seeking OOP for medical care (Xu et al., 2003). They become poor if they exceed their catastrophic threshold and be excluded from health treatments if they are unable to pay (Aregbeshola, 2016; Xu et al., 2010). Xu et al. (2003) demonstrated that a proportion increase in OOPHE increases the availability of health facilities and services but same increment increases the proportion of households (people) faced with CHE. They ended that poverty can be reduced by minimising OOPHE (Xu et al., 2003) and the only way is health insurance with prepayment modalities. Albeit, studies to show an insured household will not exceed OOPHE threshold remains limited, perhaps such studies have not been conducted but reports of Mondal et al. (2010) and Xu et al. (2003) manifest inversely.

Entitlement has been a key parameter for measuring poverty. This entitlement is found to influence healthcare expenditures. As is always the case, Mondal et al. (2010) reported a strong positive correlation results between household basic entitlement index (household's basic consumptions like social recreation, clothes, food, medical treatment, education, etc.) and healthcare coping mechanisms like spending from regular income or saving, borrowing, selling mortgaging assets and OOPHE. Hence, when household exceed their total OOP spending for healthcare, there is a high chance of the household curtailing food consumption, withdrawing children from school, borrowing at high interest rates, defaulting, and selling personal property, all because of increased total OOPHE for medical care (Mondal et al., 2010).

It is disclosed in literature reports that OOPHE levels corroborate with income levels. Studies have demonstrated that, comparatively, uninsured poor households incur high catastrophic effects due to high OOPHE whilst differently with uninsured rich households; reasons attributed to their differential income level (Misra et al., 2013; Xu et al., 2003; Xu et al., 2005). That is those within the lowest household income incur OOPHE than those found in the higher household income. Xu et al. (2005) reported from their study that in an uninsured situation (circumstances), households with lower income have higher spending burden (i.e. health payments-to-income) ratio and vice versa. Consequentially, the OOPHE effect is higher for household with poor income [expenditure] but virtually absent for households with high income [expenditure] (Misra et al., 2013; Xu et al., 2003). Substantive prove is based on Misra et al. (2013) reported findings that households with lowest income have a higher spending burden ratio (ratio of total OOP Medical Expenditure to Total family income) and vice versa. Thus, there is an indirect significant relationship between household income and OOP for medical services (Misra et al., 2013). Xu et al. (2005) explained that in such an existing situation, the poverty level of poor households turn extreme due to the adverse consequences illness has on their earnings especially on their general welfare and wage if they are self-employed. This is so because households of different income levels will have to make same payment for same healthcare cost. The poorer the household, the higher the subsistence (total) income devoted to healthcare when there is no health insurance (Xu et al., 2003). Though it is a general recommendation among most scholars, Misra et al. (2013) claim introducing a health insurance for the poor population, particularly for the urban section will absorb the indirect OOP for medical services.



Source: Author's Own Construct, 2018

Figure 3.4: Conceptual Framework of Health Insurance and its effects on Household

The Figure 3.4 above displays the Conceptual framework of health insurance scheme and its effects on the households status based the theoretical and empirical findings. The framework conceptual establishes operational linkages between HIS and enrolment decisions and other health related outcomes among poorest households.

Conceptual framework outlined three dimensions: (a) insurance enrolment decisions (b) other health related outcomes — consumption, healthcare use and OOPHEs, and (c) Effect of health insurance.

The first dimension- **households’ insurance enrolment decisions** looks at the enrolment rate, enrolment determinants, strategies for promoting enrolment in health insurance and barriers to enrolment among households. This dimension theoretically explained that theoretical constructs of EUT and SDUT such as *risk and uncertainty and state of nature* influenced households’ decision to enrol in health insurance. Empirical findings of the study also revealed the determinants such as poverty, affordability of contributions, demographic and socio-economic characteristics (gender, religion, marital status) were factors that influenced insurance enrolment decisions among households.

The second dimension, - **other health related outcomes** that look at behaviour towards enrolment decisions, consumption, healthcare use and out-of-pocket health expenses among the households. This dimension theoretically explained that the theoretical constructs of HBM such as *perceived severity, perceived susceptibility, perceived benefits, perceived barriers, cues to action, and self-efficacy* influenced household health seeking-behaviour towards enrolment decision, consumption, healthcare use and OOPHEs. Empirical findings of the study also revealed that participation in health insurance enable households to completely smooth consumption against health shocks, increased healthcare use and minimised OOPEs.

The third dimension - **effect of health insurance**. The focus here is largely on empirical findings which disclose that health insurance promotes access to healthcare, improves health status, reduces poverty, ensures social inclusion, and ensures asset protection. However, in terms of its effects on enrolment, on a proportionate scale range of 44.7% for rich, 17.6% for the poorest households, respectively. There was a general acceptance that the poorest are always least enrolled.

Summary

This chapter has provided a detailed overview of the selected theories, empirical findings and the conceptual framework for the study. The literature findings have provided the desire and the relevant clues to why members of the household enrol onto HISs; examining behavioural relationships with health; and predicting health related outcomes.

It is seen from the vast theoretical literature reviewed that only two (2) decision making theories (EUT and SDUT) and a health behaviour theory (HBM). These theories were used (a) to explore the applicability of the various constructs that underpin NHIS enrolment decisions and (b) to explain the effect of NHIS membership on health related outcomes- consumption, healthcare use and OOPHE. The theories offered enormous findings and outlined stages of interplay of key health actions and conditions in HIS. These theories have offered the best explanation to (a) why SHP intervention like the NHIS of Ghana linkage to poorest households is necessary, (b) understanding of the various constructs postulated by the existing theories on enrolment decisions, (c) the effect of NHIS membership on health related outcomes, (d) and to detect health action variables. These are well backed by literature findings, and have motivated the desired aim of generating new knowledge about the effect of SHP intervention (NHIS) on the poorest households, produce

improvements, and gain full understanding of health protection mundus operandi and health behaviour varieties.

Specifically, literature reviewed centred on exploring the factors that influence NHIS enrolment decisions among poorest households' which included enrolment rate, enrolment determinants, and barriers to enrolment and approaches to increasing enrolment. Further, focus was drawn on effect of NHIS membership on other health related outcomes- consumption between insured and uninsured, healthcare use and OOPHE. In this respect, the determinant of OOPHE was also addressed. Attention was then turn to health insurance, poverty and OOPHE, whereby a lot of issues were discussed such as the influence of insurance cover on OOPHE and poverty. Finally, the findings established from the review of plethora of literature helped structured the conceptual framework that guides the study. What concerns here critically is the occurrence of OOPHE among households with insurance. SHP policies related to health insurance schemes must be well co-ordinated to protect the poorest households from financial expenses and poverty that arise from consumption of healthcare services. Again, healthcare services must be made universally accessible and affordable to poorest households to minimise OOPHE.

Once more, it is overwhelming to have unravelled several issues that relate to a foremost concern for SHP policy makers, especially in how to make utmost effectual gains of tax funds invested in healthcare in promoting the wellbeing of the poor. Studies therefore have provided explicit recommendations in respect to that but the unfortunate is that most studies could not address it in detail.

CHAPTER FOUR

4.0 RESEARCH METHODOLOGY

4.1 Introduction

This chapter discusses the methodology employed in undertaking this research. It explains the specific objectives of the study and an appropriate methodology to achieve those objectives. The chapter also details out the philosophical assumptions underpinning the research.

One of the specific objectives of the study was to examine the applicability of the various theoretical constructs postulated by the EUT, SDUT and HBM on NHIS enrolment decisions among the poorest households. The study also compared the consumption between insured and uninsured, and analysed the effects of NHIS membership on healthcare use and out of pocket health expenditure (OOPHE).

The chapter further describes the research design and approach adopted to achieve the stipulated objectives for the study.

4.2 Research Paradigm and Philosophy

The study adopted Pragmatic paradigm after carefully considering the specific objectives of the study.

The term “Pragmatism” is defined as a deconstructive paradigm that “sidesteps the contentious issues of truth and reality” (Feilzer, 2010, p. 8), and “focuses instead on ‘what works’ as the truth regarding the research questions under investigation” (Tashakkori & Teddlie 2003b, p.173).

Pragmatism advocates the use of mixed methods in research and further acknowledges that the values of the researcher play a large role in interpretation of results. Pragmatism also rejects the choice associated with the paradigm wars. Patton (2002) also identifies the pragmatic approach as

a means of promoting methodological appropriateness to enable researchers increase their methodological flexibility and adaptability. Johnson and Onwuegbuzie (2004) likewise saw that the approach offers a practical and outcome-orientated approach of inquiry that is founded on action and leads, interactively to further action and the elimination of doubt.

The pragmatic approach tends to be a more appropriate philosophical paradigm for this study since the main objective of the study was to explore the factors that influence NHIS enrolment decisions among the poorest households and explain the effect of NHIS membership on consumption, healthcare use and OOPHE. Durairaj et al. (2010) reported that NHIS contributes to a decline in hospital deaths among the insured since insured patients receive early treatment. The authors further reported that NHIS provides social inclusion and financial protection to insured patients. Jehu- Appiah et al. (2011) stated that the NHIS guarantees better access to health care and also provides risk protection to poor households against the cost of illness. In spite of this, studies by Kotoh and van der Geest (2016) revealed that the poorest households are least enrolled in the scheme. These challenges faced by the poorest households in accessing healthcare are not necessarily about the inability to them to pay medical bills, but their situations are influenced by multiple factors which unfold and interplay throughout the person's life course (Grut, Mji, Braathen, & Ingstad, 2012). As noted by Grut et al. (2012), these challenges are rooted in poverty the households face in their life situations, and reinforced by the lack of the person's perspective of the health services. The adoption of the pragmatic paradigm therefore allows the researcher to have the freedom of choice to choose more than one method to gather and analyse data about the observable phenomenon within the social world (McLaughlin, 2012); Wayhuni, 2012), and this provides a holistic approach to the study. Hughes and Sharrock (1997) also noted that the approach contributes to minimizing potential methodological errors. Thus, the researcher can triangulate

procedures to leverage the strength of one research method in order to compensate for the weakness of other methods as accepted within their paradigm (Deshpande, 1983). Generally, some scholars like Johnson and Clark (2006) (cited in Saunders, Lewis, & Thornhill, 2009) hold that the emphasis should not be that a research is philosophically informed but how well it reflects the adopted philosophical choices pertaining to the alternatives. The study supports what Johnson and Clark (2006) argue about and stick to its blended philosophical stands as it is advantageous.

Considering the specific objectives of the study in Chapter one (1), the ontological, epistemological, axiological, and methodological underpinnings of this research are discussed below.

4.2.1 Ontology

Ontology is concerned with the nature of existence, reality, and being. The ontology for pragmatists is that ‘Reality’ is the practical consequence of ideas, and that all individuals have their own unique interpretation of reality (Guba & Lincoln, 2005; Mertens, 2010). This suggests that for research to be valid and meaningful there is a need to obtain as many voices on the issue or phenomenon as possible. Following the pragmatists’ position, the researcher decided to avoid the use of truth and reality that has caused much debate among paradigms, and accept philosophically that there are singular and multiple realities that are open to empirical inquiry and place themselves towards solving practical problems in the “real world” (Creswell & Plano Clark, 2007; Dewey, 1925; Rorty, 1999). The implementation of the NHIS exemption policy over the years has affected the poorest households’ enrolment decisions and their other health related outcomes (consumption between insured and uninsured, healthcare use and OOPHE) as admitted by the researcher. Therefore, to obtain a full and deep understanding of the outcomes, one needs to understand many realities.

4.2.2 Epistemology

Epistemology concerns what constitutes acceptable knowledge in a field of study. The epistemology in pragmatism is that knowledge can be determined by means of reason or experience, but it is always provisional (Tashakkori & Teddlie, 2003). Mertens (2010) notes that the pragmatists believe that knowledge can be created through behaviour. Therefore, as a pragmatic researcher seeking the worth of the research findings, the researcher's epistemic beliefs focused on the knowledge on factors that influence NHIS enrolment decisions among the poorest households and analyse the effect of NHIS membership on consumption, healthcare use and OOPHE. The researcher had to use both quantitative and qualitative research methodologies for collecting and analyzing data than with one method. This leads to data and method triangulation (Denzin, 1978), improving the validity of results by ensuring that the research questions were appropriately answered.

4.2.3 Axiology

Axiology is defined as the role of values in inquiry. Similarly, Guba and Lincoln (1994) viewed it as the study of the nature of ethics. The positivist considers all inquiry to be value free, while the constructivist/interpretivists settle that it is value-bound. The pragmatist axiology put forward that the ethical goal of research to gain knowledge in the pursuit of desired ends. This usually includes a full understanding of the issues being studied, dialogue with the LEAP household heads being studied, and ensuring that varied views and responses become part of the study. All these are to ensure that the good outcomes for science, humanity, and the individual research participants are maximized.

4.2.4 Methodology

Patton (2002) noted that the method is decided by the purpose of the research. To ensure that research questions are appropriately answered, pragmatic method implies that the overall approach to the research process is that of mixed methods procedure of data collection and analysis (Creswell, 2003). To properly answer the research questions and to address the research problem the researcher adopted qualitative methods to examine the applicability of the various theoretical constructs postulated by EUT, SDUT and HBM that underpin NHIS enrolment decisions among the poorest households in Ghana and quantitative method to explore the effects NHIS membership on consumption , healthcare use and OOPHE.

4.3 Research Design

A cross-sectional study involves looking at data from a population at single point in time (Cherry, 2009). As distinguished by Abramson (1985), it is more effectual to adopt a cross- sectional design if the data will be collected on more than one case and will relate to a single specified time. In line with the suggested position of this author, **cross-sectional study** was used for the study. This research design describes the characteristics that exist in a community, but not to determine cause-and-effect relationships between different variables takes (Cherry, 2009). It is often used to make inferences about possible relationships (Grimes & Schulz 2002; Levin, 2006)

A **cross-sectional design** was carefully chosen by the researcher to explore the factors that influence NHIS enrolment decisions among the poorest households and analyse the effect of NHIS membership on consumption, healthcare use and OOPHE in both Shai Osudoku and Amansie West districts. Thus, by using this design, the researchers is able to collect a great deal of information quite quickly; to determine the prevailing health outcome among poorest households

(Omair, 2015). According to Creswell (2009), the cross-sectional research design enhances replication because of its inherent standardized measurement and sampling techniques and also improves consistency of observations. Besides, this research design also helps to avoid problems related to longitudinal designs like being costly and time-consuming, and finally making respondents less interested in partaking in the research. To examine the health care and consumption effect of the health insurance enrolment among poorest households, two (2) districts were selected for the study (details about the selected districts are provided in sections 4.4.1 and 4.4.2 of this Chapter).

The study also has a theoretical and conceptual framework that guided the collection of data. This understanding was taken from Yin (1993) who noted that the more thoughtful the theory, the better the study will be. This required a comprehensive literature review to arrive at a more thoughtful theoretical and conceptual framework which consequently improved the quality of the research (details about the theoretical and conceptual framework are provided in Chapter 3).

4.4 Research Approach

The study adopted a **mixed method approach** for data collection and analysis to examine the phenomenon. The data collection approach involved both qualitative and quantitative methods. The data collection therefore provides innovation (Jick, 1979), rich and unbiased data (Denzin, 1970; Jick 1979; Marshall & Rossman, 2006; 2011; Thurmond, 2001) that can be interpreted with a high degree of assurance (Jick, 1979; Breitmayer et al., 1993; Thurmond, 2001) and a more accurate assessment of the subject (O'Neill, 2006) with a view to achieving strong internal and external validity and reliability, as well as a comprehensive multiperspective view (Boyd 2000; Thurmond, 2001; Perone & Tucker, 2003). The approach also enables the researcher to capture

prevalence of behaviours according to specific healthcare outcomes, and the rationale for specific health seeking behaviour (Annear, Bidgeli, Eang, & Jacobs, 2008). In other words, in using the qualitative and quantitative data gathering techniques, the researcher benefited from the combined the strengths of both approaches. Additionally, this method provided a holistic view of the research problem and questions under the study, and thus provided a very deep and rich understanding of the work (Marshall & Rossman, 2006; 2011).

However, a **convergent parallel mixed method design** (Campbell & Fiske, 1959; Creswell & Plano Clark, 2011) was adopted, where both quantitative and qualitative data are collected at the same time, but analyzed separately. Nonetheless, this stance should not be attributed as the researcher's inability to decide between the advantages and disadvantages of both methodologies. Rather, it is to minimize the limitations of both approaches on their own, as well as provide more data to achieve the objectives set out by this study.

A quantitative procedure was used to collect household data to provide answers to objective (ii) comparing consumption between insured and uninsured, (iii) analysing the effects of NHIS membership on healthcare use and (iv) analysing the effects of NHIS membership on OOPHE in the study. This was done mainly through the administering of questionnaire to household heads (see Chapter 6). On the other hand, the study used qualitative procedures to collect qualitative data through interactions with Focus Group Discussions (FGDs) and interviews with officials of the National Health Insurance Authority (NHIA), Department of Social Welfare (DSW), Community Development (CD) and District Health Directorate (DHD) from each of the selected districts. This was also done to unravel some themes that emanated from the transcribed data (see Chapter 5). These approaches provide diverse methods and a more comprehensive analytical technique in

addressing the research problem than using a single approach. It also yields more valid and representative findings (Boyden & Ennew, 1997; Creswell, 2009; Fitzgerald, 2006).

4.5 Profile of research setting

The research setting refers to the places where the data were collected. In this study, data were collected from Shai Osudoku in the Greater Accra Region and Amansie West in the Ashanti Region. The profile of the selected areas relates to geographical location, population size, economic activities, and other characteristics of the two selected districts for the study.

4.5.1 Shai Osudoku District

Shai Osudoku District was formerly called Dangbe West. It is found in the Greater Accra Region of Ghana and its administrative capital is Dodowa. Shai Osudoku is largely a rural district with twenty-three (23) towns (Ghanadistricts.com, 2017; GSS, 2012, 2014).

Geographically, the district is situated in the south-eastern part of Ghana, lying between Latitude 5° 45' South and 6° 05' North and Longitude 0° 05' East and 0° 20' West (Ghanadistricts.com, 2017). The district shares boundaries with Yilo Krobo District, Manya krobo District and Asuogyaman to the north; Akwapim-North District on the west, Kpone Katamanso District on the south-west, and Ningo Prampram District to the east. The Central Tongu District occupies the north-eastern boundary (Ghanadistricts.com, 2017; GSS, 2014). Shai Osudoku District has a total land area of about 968.36 square kilometres, representing 29.84% land space of the Greater Accra Region.

The 2010 population and housing census (PHC) revealed that, the population of Shai Osudoku is about 51,913. Out of this total, 25,272 (48.7%) are males and the remaining 26,621 (51.3%) are females. The proportion of the population aged less than 15 years is 37.9% and under 5 years

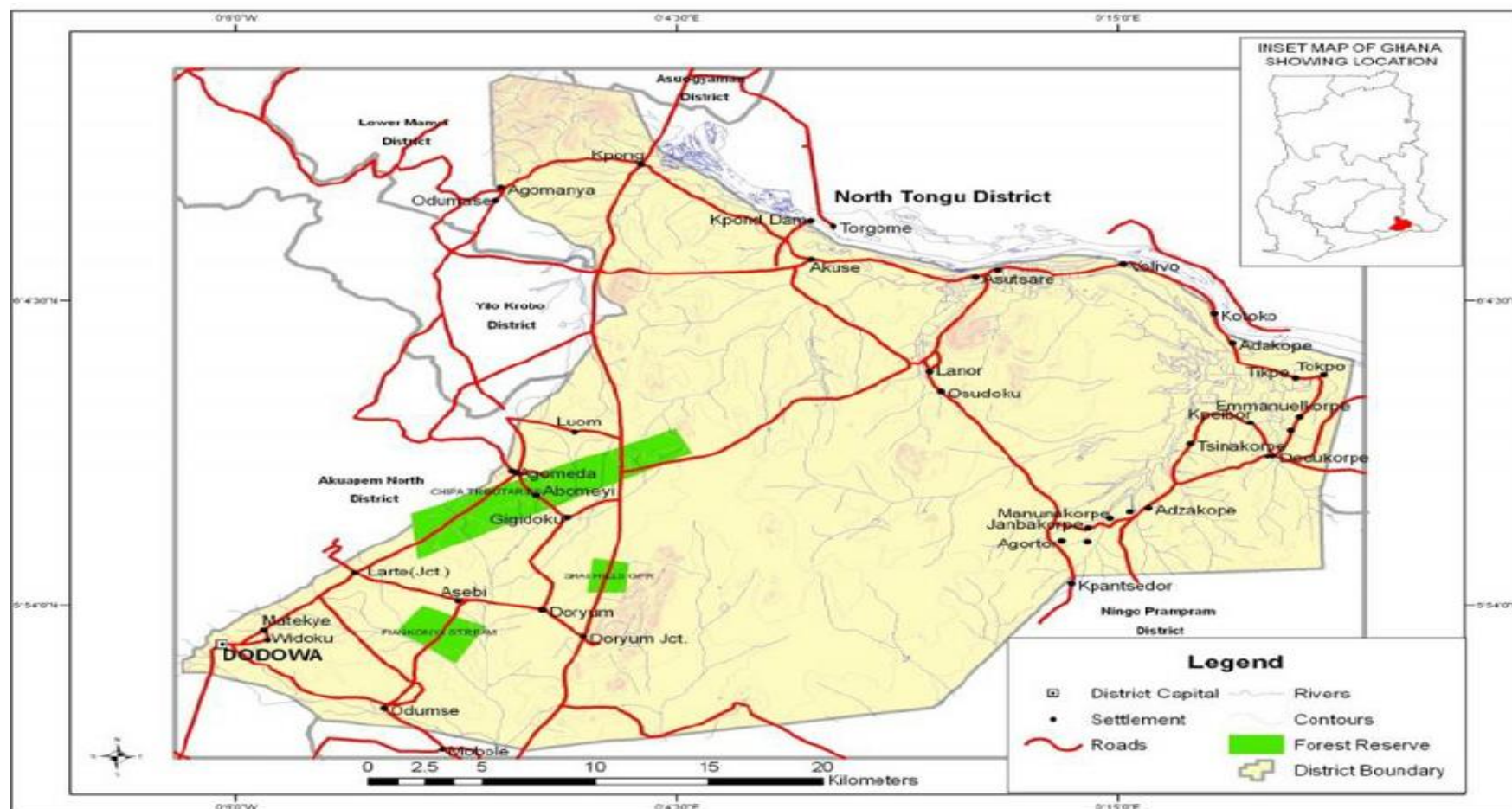
13.8%; while the sex composition of the population shown that females are more than males. The percentage of literates in Ghanaian language and English in the district is 46.0% among the population 11 years and older. (GSS, 2014). The age-dependency ratio in the district (76.4/100) is higher than the national figure of 76/100.

Economically, agriculture (crop/livestock farming, and fisheries) is the dominant activity (occupation) in the district, employing 46.6% of the working population. This is followed by trading, the next largest employer, with 15.2% of the people engaged in it (GSS, 2014). Although agriculture dominates the district, the leading sector in terms of provision of revenue to the district and remunerations to the poor inhabitants is the quarries (Ghanadistricts.com, 2017). Tourism is also among the prime components of the socio-cultural and economic activities of the district.

Occupation-wise, the district can be described as the third least district with low officially employed professionals (skilled labourers). This is based on the 2010 (PHC) that, out of the 1,750,733 total employed persons in the Greater Accra Region, Shai Osudoku recorded 45,609 (2.6%) employed persons as against Ayawaso West Mampong (25,594) and Adenta Municipal 35,636. GSS (2014) also indicates that the average household size in the Shai Osudoku District is 4.4 with a total number of 50,021 households (GSS, 2014). Children between 0-14 years constitute the largest proportion of the household members accounting for 37.9%. Heads of households form 23.7% and spouses 10.1%. Nuclear households made up of head, spouse(s) and children are the predominant household setup in the district, which constitutes 27.3% of the household population by structure (GSS, 2014).

To increase accessibility to healthcare facilities and services, a number of health facilities have been strategically established in the Shai Osudoku District. These comprise one (1) ultra-modern District Hospital with the capacity of 140 beds, ten (10) community-based health planning and

services (CHPS) zones located at Kordiabe, Doryumu, Sota, Mokomeshitamohé, Kadjanya, Asutsuare SDA, Volivo, Agbekotsekpo, Abuvienu and Adakope respectively, and (12) CHPS compounds. The district also has two (2) Health Centres at Asutsuare and Osuwem, and one (1) private Maternity Home at Dodowa, as well as a quasi-government clinic at Kordiabe (Shai Osudoku District Assembly report, 2015).



Source: GSS, 2015

Figure 4. 1 Map of Shai Osudoku District

4.5.2 Amansie West District

The Amansie West District, located in the Ashanti Region of Ghana, is one of the thirty (30) districts established by Legislative Instrument (L.I) 1403 in 1988. With its capital called Manso Nkwanta—a small rural town of Amansie West District.

Geographically, Amansie West District is found on the south-western sector of the Ashanti Region, sharing its southern boundaries with the Western Region, and to the north by Bosomtwe District. Specifically, the district shares political boundaries with nine (9) other districts: Bekwai Municipal, Amansie Central and Obuasi Municipal to the east; Atwima Nwabiagya and Atwima Mponuah to the west; Upper Denkyira and Bibiani to the south; and Atwima Kwanwoma to the north (GSS, 2014). Its total land size is 1230 square kilometers—5% of the total land area of the Ashanti Region; and it sits just within Latitude (1.400, 2.050) North and Longitude (6.050, 6.350) West (GSS, 2014).

The 2010 population and housing census (PHC) reported Amansie West to have 134,331 (2.8 percent) population of the entire Ashanti Region population. This population is made up of 67,485 (50.2%) females and 69,790 (49.8%) males (GSS, 2014). Among the population, the literacy rate decreases with aging. The percentage of literates in Ghanaian language and English is higher for men between the ages of 60 and 80 than for women in the ages of 50 and 70 (GSS, 2014). Regarding the population schooling, only 37% attend junior high school of which the female proportion (39.6%) is higher than the male proportion (35.9%). Female enrolment for primary education is slightly higher (51.85%) compared to males (49.9%).

Economically, three-fourth (59.2%) of the district population is involved in agriculture (fishery, and forestry). That is, the predominant economic activity of the district is agriculture, which employs 62.1% females and 56.6% males. It is therefore not surprising that a very large private

sector (96.6%) hold the economic activities of the district; and about two-thirds (63.5%) of the population is self-employed. The economy is therefore a highly private informal engaging 94.2% of the population 15 years and above. In terms of agriculture, the district can be described as an agricultural district. In the district, of the 29,359 registered households, 74.1% were identified as agricultural households engaging in four essential agricultural activities: crop farming, livestock rearing, fish farming and crop farming (see Table 4.1).

Table 4. 1 Agricultural Activities of Households in Amansie West.

Type of activities	Total		Urban		Rural	
	Number	Percent	Number	Percent	Number	Percent
Households in Agriculture	21,755	74.1	695	50.2	21,060	75.3
Crop farming	21,534	99.0	671	96.5	20,863	99.1
Tree planting	54	0.2	7	1	47	0.2
Livestock rearing	3,606	16.6	53	7.6	3,553	16.9
Fish farming	17	0.1	0	0.0	17	0.1
Total households	29,359	100.0	1,384	100.0	27,975	100.0

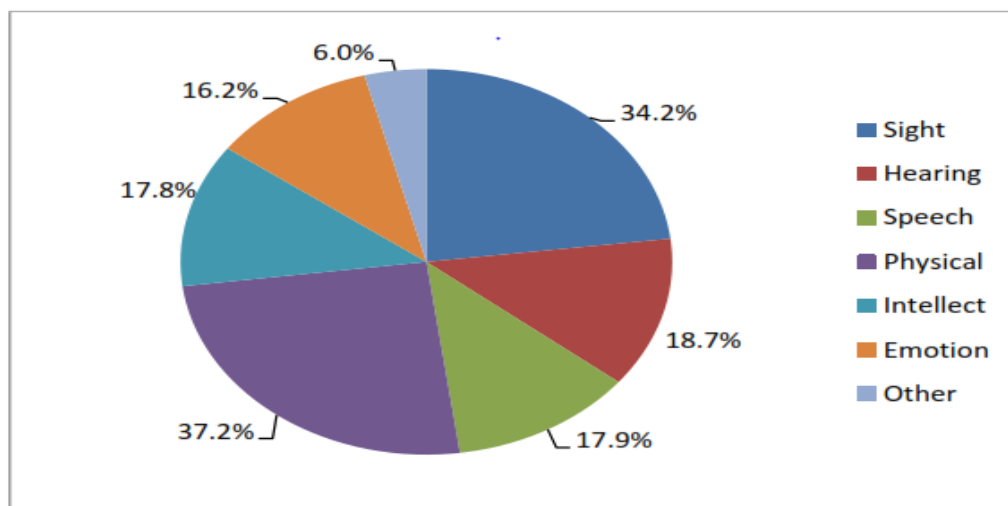
Source: GSS, 2010 Population and Housing Census, 2014.

The District has a total number of 29,359 households with nearly more than ninety percent (95.2 %) in the rural areas. The average household size in the district is 4.5 persons per household. Children between 0-14 years constitute the largest proportion of the household members accounting for 41.3%. Heads of households form 22.2% with 15.5% female, and spouses

(wife/husband) 10.5%. The nuclear family (head, spouse, and children) is the predominant household setup in the district and it accounts for 31.2% of the household population by structure (GSS, 2014).

4.5.2.1 Persons with Disabilities

One of the most vulnerable group of people in the human population is the persons with disabilities. This category of people is what SHP really targets most. In Amansie West, persons with various forms of disability—sight, hearing, physical and emotional impairments, as seen **Figure 4.2**, constitute 2.1% of the entire district population (GSS, 2014).



Source: Ghana Statistical Service, 2012; 2010 Population and Housing Census.

Figure 4.2 People with Disability

Figure 4.2 shows that the most predominant form of disability is physical impairment, accounting for 37.2%, followed by visual (34.2%) and then hearing impairment (18.7%).



Source: GSS, 2014

Figure 4. 3 Map of Amansie West District

4.5.3 Reasons for the selection of these Districts

Shai Osudoku and Amansie West districts were purposively selected out of 260 LEAP districts based on the following facts.

- Both districts distinctively have large numbers of poorest households that are quite far below the poverty line. Shai Osudoku district has 1,315 LEAP households in 43 communities whereas Amansie West has 1,198 LEAP households in 61 communities (LMU report, 2017).
- There is high poverty incidence in both districts. Shai Osudoku District is the poorest in its region. The district has the poverty incidence of 55.1% and highest poverty inequality of 40.1 percent, (Ghana Statistical Service, 2015). Most importantly, it is the second district with the highest LEAP households (1,315) in Ghana. Amansie West District is also one of the poorest districts in the Ashanti Region, and is predominantly rural with the highest LEAP households in the region (1,198). The district, with 29,359 households, has 95.2% of its households of rural life compared with 4.8% of urban life (Ghana Statistical Service, 2015). Further, three quarters (3/4) of the households in Amansie West live with less than GHc 3.15 a day. Moreover, the district is under health threat characterized by a high morbidity rate. The district, with a total population of 134,331, has deaths in households of 957 and a crude death rate of 7.1 deaths per 1,000 population as against the national average of 6.8 (Ghana Statistical Service, 2014).
- Both districts have a fair representation of both insured and uninsured NHIS members. Shai Osudoku has 38.7% of LEAP beneficiary households enrolled onto the NHIS whilst the rest (61.3%) are not enrolled. Thus, the district has high proportions of both insured and uninsured, making it better for engagement. Amansie West also has 40% of LEAP

beneficiary households enrolled onto NHIS in the LEAP, whereas 60% are not enrolled. Comparatively, the district also presents high proportions of both insured and uninsured LEAP beneficiary households' than the other districts in the Ashanti region.

4.6. Units of Analysis

4.6.1. Study Population

Saunders et al., (2012) defined population as the full set of cases from which a sample is taken. The population of the study is made up of all LEAP households in the study areas who are either enrolled or unenrolled onto the NHIS. Polit and Beck (2004) in their study described eligibility criteria as “the characteristics that people in the population must possess in order to be included in a study”. The eligibility criteria for inclusion in the study under discussion were that subjects must be:

- i. LEAP household heads in selected districts. In a situation where the head of a selected household is not available, any member of the household aged 18 years and above and willing to participate will be selected.
- ii. LEAP household head registered under the NHIS (insured) since 2014.
- iii. LEAP household head not registered under the NHIS (uninsured) since 2014.

4.6.2 Sample Size

The sample size for the study was **644**. In all, there were two sample groups.

The first sample group was for the ***Household survey***. Here, a total of five hundred and eighty (580) respondents (household heads) were studied. They comprised two hundred and eighty-five (285) respondents from Shai-Osudoku district and two hundred and ninety-five (295) from

Amansie West district. The sample distribution among the study areas was based on their respective populations.

The second sample consisted of fifty six (56) insured and uninsured household heads from the eight (8) *FGDs organised* (4 each from Shai-Osudoku and Amansie West districts), and eight (8) *officials for KIIs* from the selected districts offices of the NHIA, DSW, CD and DHD (see Tables 4.6, 4.7 and 4.8). The qualitative interviews with sixty four (64) respondents of the various districts were necessary to help the researcher gain deeper insights into the interrogation of the applicability of the various theoretical constructs postulated by EUT, SDUT and HBM on NHIS enrolment decisions the poorest households.

Determination of the sample size for the Quantitative study

According to the LEAP management unit (LMU), Shai osudoku and Amansie West districts have enrolled 39% and 40% of LEAP households respectively onto the NHIS. This informed the determination of the sample size using the formula for sample size for estimation of a single proportion in a single cross-sectional study (Gorstein, Sullivan, Parvanta, & Begin, 2007).

The sample size was determined based on the formula below;

$$n = \frac{Z^2 p(1-p)(D)}{d^2} \quad (1)$$

Where:

n = sample size;

Z = z value (1.96 for 95% confidence interval);

p = Estimated of the expected proportion;

d^2 = Desired level of absolute precision; and

D = Estimated design effect.

Using this formula, and assuming 95% confidence interval is 1.96, Absolute precision is +/- 5% Design effect³ is 2, and a total of 580 LEAP households sampled from 22 communities in Shai - Osudoku district and 19 communities in Amansie West district respectively.

Table 4. 2 Sample Size Estimation

District	Number of LEAP households	Number of LEAP households enrolled onto NHIS	Expected enrolment coverage (p) (%)	Absolute precision (d) (%)	Design Effect (D)	Sample size estimation (n)
Shai Osudoku District	1,315	510	38.783	+/- 5%	2	$n = \frac{1.96^2 * 0.39(1 - 0.39)(2)}{0.05^2}$ n= 285.141
Amansie West District	1,198	480	40.066	+/- 5%	2	$n = \frac{1.96^2 * 0.40(1 - 0.40)(2)}{0.05^2}$ n= 295.039
Total	2,513	990				580.18

Source: Author's Construct, 2018

Proportional allocation of sample size

The proportional household allocation per community was calculated with the formula below to reach the required respondents in each selected district. Communities in each district with less than 15 households were dropped.

³ In general, for a well-designed study, the design effect usually ranges from 1 to 3. It is not uncommon, however, for the design effect to be much larger, up to 7 or 8 (Flores-Cervantes, Brick & DiGaetano, 1999).

$$n_i = \frac{n}{N} * N_i \quad (2)$$

Where:

N = Total number of LEAP households;

N_i = Total number of households in ith LEAP community;

n_i = Number of sample respondents in ith LEAP community; and

n = Sample size calculated per district.

(See Table AP4-1 in Appendix 4 and Table AP4-2 in Appendix 4).

4.6.3 Sampling Technique.

4.6.3.1. For the Quantitative Component of this study

After selecting the districts purposively due to these geographical location and settlement heterogeneity of the target population, **multistage sampling techniques** were used to select households for the study.

The first stage of the sampling technique was to divide sample into two districts, Shai-Osudoku district and Amansie West district.

In the second stage, stratified sampling techniques was used to select sampled households from 2,513 households in 104 communities/hamlets' (both districts). A list of 886 households in 22 LEAP communities were selected from Shai-Osudoku district, whilst 930 households in 19 LEAP communities were selected from Amansie West district. (See Table AP4-1 in Appendix 4 and Table AP4-2 in Appendix 4). Each community selected represents a stratum with respect to the characteristics under the study. This included those who have subscribed to NHIS and those who have not making the second stage.

The third stage was to select each sampled household randomly and proportionally from the LEAP communities per district until the exact total number of respondents was secured (See Table 4.3). This sampling technique ensured that every stratum in each district was fairly represented in the sample selection (Kumar, 2011). One household representative was randomly chosen as a respondent.

Table 4. 3 Selected Communities

District	Selected LEAP communities	Number of households
Shai Osudoku District	22	285
Amansie West	19	295
Total	41	580

Source: Author's Construct, 2018

In each sampled household, a respondent constituted only a household head. But, in a situation where the household head selected is unavailable, another member of the household aged 18 years and above and willing to participate was selected.

4.6.3.2. For the Qualitative Component of this study

For the qualitative component of the study, there was the need to purposively select interviewees whose knowledge and/or experience would be relevant to the phenomenon being studied and would be able to provide appropriate answers to aid the researcher make valid conclusions.

The researcher **purposively selected** respondents for FGDs. Four (4) focused group discussions were organised in each selected district (Shai-Osudoku and Amansie West districts). Krueger (1994) endorsed the use of very small focus groups -- what he terms “mini-focus groups”. In line

with the suggested position of this author, at each location, the group members numbered seven (7), both for insured and uninsured were organised. (See Table 4.4 and 4.5).

FGDs organised allowed the researcher to interact with group members of each FGDs selected, and share realistic perspectives on issues discussed (Osei-Hwedie, Monera, Rankopo, & Tlamelo, 2006). This led to more emphasis on the points of view of the participants on the issue than those of the researchers. In other words, it will provide a forum for exploring the “deeper and more genuine expressions of beliefs and values that emerge through dialogue [and] foster a more accurate description of views held” (Howe, 2004)

Table 4. 4 Focus Group Discussions: Shai Osudoku District

No.	Community	Venue	NHIS Category	Gender	Participants
1	AYIKUMA	Church of Pentecost	Insured	Male Adults	7
2	MANTETSE	ICCES School	Insured	Female Adults	7
3	ODUMSE	The Apostolic Church -Ghana	Uninsured	Female Adults	7
4	SOTA	The Apostolic Church -Ghana	Uninsured	Male Adults	7

Source: Author's Construct, 2018

Table 4 .5 Focus Group Discussions: Amansie West District

No.	Community	Venue	NHIS Category	Gender	Number
1	ABIRAM-MANSO COMMUNITY	Methodist Church	Uninsured	Male Adults	7
2	DOME-BEPOSO	Chief's Palace	Uninsured	Female Adults	7
3	DAWUSASO GYEGYETRESO	Roman Church	Insured	Female Adults	7
4	SUBINSO-BISEASE	Methodist Church	Insured	Male Adults	7

Source: Author's Construct, 2018

With respect to KIIs, the researcher **purposively** selected and interviewed the officials of the NHIA, DSW/CD and district health directorate (DHD) using the prepared interview guides to also provide matching information. However, the interviews were conducted in the districts offices. This technique is dependent on the researcher's choice (Saunders et al., 2009). By choice, the researcher selected officials based on their readiness, willingness, accessibility and experiences (expertise) with NHIS and LEAP. Through this technique, detailed information was collected from officials on the applicability of the various constructs postulated by the existing theories on the poorest households' enrolment decisions. On average each interview session with officials lasted 45 minutes. (See Table 4.6)

The good of this technique is that it is convenient, simple and cost effective to apply in the study. Though it is being overreliance on subjectivity, to the researcher it is very good for dealing with heterogeneous cases.

Table 4. 6 Participants of the Key Informant Interviews (KIIs)

Subject	Shai Osudoku District	Amansie West District	Frequency
NHIA Officials	2	2	4
District Directors of DSW	1	1	2
District Directors of CD	1	1	2
Total	4	4	8

Source: Author's Own Construct, 2018

4.6.4. Data Collection Instruments

To collect the needed data for the study, the researcher constructed separate instruments for the collection of quantitative data and qualitative data.

(a) Instruments for quantitative data

Questionnaires were administered to household heads in the Shai Osudoku and Amansie West districts to collect household data to address specific objective (ii), (iii) and (iv) of the study.

The first part of the questionnaire instrument covered socio-demographic characteristics of the respondents. The other part of the questionnaire consisted of questions to identify and measure consumption between insured and uninsured, healthcare use and out-of-pocket health expenditure (OOPHE). But the questionnaire consisted of some open-ended questions so that respondents can answer the questions in their own words; discover unlooked-for findings; and permit creativity, self-expression, and richness of findings (Boateng, 2014; Greener, 2008).

The researcher adopted the questionnaire in collecting the household data since it is less expensive, very effective and can have a high response rate compared to mail surveys. Again, the closed ended questions make it stress-free and quicker for respondents to answer; allows for easy comparison; allows for easy coding analysis; and to reduce the volume of irrelevant issues (Boateng, 2014; Greener, 2008). In addition, the used of the questionnaires helped to reduce interviewer errors because the interviewer did not influence the responses provided by the respondents, and the respondents have enough time to think through the questions and respond appropriately (Saunders et al., 2009).

(b) Instruments for qualitative data

FGDs and KII were used by the researcher to gather qualitative data to address specific objective (i) of the study. Interview guides were extensively used in the qualitative data collection, and the interviews for both FGDs and KIIs were conducted in a face-to-face manner in order to ensure a high response rate. Cresswell (2007) noted that although there may be an interview guide, the conduct of the interview, the questions and follow-up questions asked, and the criteria for the

assessment of responses mainly depend on the interviewer, who is the researcher. In line with the suggested position of Cresswell (2007), in all the interview sessions the researcher was part of the process and took notes to capture direct quotations about people's personal viewpoints.

The prepared interview guide used for the FGDs and KIIs interviews consisted of closed-ended and open-ended questions that are targeted at collecting non-numerical data. The closed-ended questions of the guide covered the date for conducting the FGD/KII, category of FGD/KII, the venue, number of participants, a moderator and a note taker. The open-ended format questions related to the theoretical constructs of the selected theories in the study that underpin the NHIS enrolment decisions. The wording of the questions was a major concern for the researcher therefore, each question will be clear and neutral as much as possible. The researcher also avoided wording that might influence answers as well as those that are offensive and sensitive. Again, respondents were given the opportunity to make recommendations regarding how to improve the implementation of the programme.

The researcher adopted this method of collecting the qualitative data because it provided a platform where household heads shared their experiences with regard to health risks and the benefits associated with NHIS. Additionally, the interviews offered the researcher the opportunity to probe interviewees' responses (Boateng, 2014; Creswell, 2007; Saunders et al., 2009) and to gather rich information for explanation.

The interviews primarily sought to identify the factors that influence enrolment decision onto NHIS among poorest households in relation to various constructs postulated by the existing theories.

4.6.5. Data Type and Sources

Data were collected from primary data acquisition sources. The primary data source included interviews and a household survey. Interview guide and questionnaire were used as the data collection instruments. Secondary data was retrieved from both unpublished and published SHP literature.

(a) Primary Sources

1. Sources of Qualitative data

Qualitative data were obtained from interviews with FGDs and KIIs in the selected districts. The need to interrogate the applicability of the various theoretical constructs postulated by EUT, SDUT and HBM on the poorest households' enrolment decisions, necessitated the use of FGDs and KIIs to obtain richness and depth of information required to address specific objective (i) of the study.

2. Sources of Quantitative data

On the other hand, the quantitative data was obtained from administered questionnaires to LEAP household heads in the study areas. The use of questionnaires has been proven to be useful to the study as it allowed the researcher to analyse the effect of NHIS membership on consumption, healthcare use and OOPHE. Again, it was advantageous because it was cheaper to use, and also saved time on the part of the researcher and the respondents (Sapsford, 2007).

4.6.6 Data Collection Process

(a) Pre-test Phase: Pretesting the Questionnaire. The study questionnaire was pre-tested with sixteen (16) households' heads in two LEAP communities (Prampram in Shai-Osudoku district

and Manso Edubia in Amansie West district) to determine its reliability and validity (Brink & Wood, 1998).

It was necessary for the researcher to do pre-testing in order to determine the average length of time needed to complete each questionnaire. Again, the pre-testing of the questionnaire was also to help in identifying any potential weaknesses in the planning process (Gardner, Gardner, MacLellan, & Osborn, 2001), and minimizing any risk or uncertainty (Turner, 2004) that might have potentially affected the outcome of the study.

The pre-testing of the study questionnaire at Prampram and Manso Edubia was done by a trained enumerator, assisted by the researcher. This enables the researcher to have knowledge on the clarity, ambiguity, style of administering the study questionnaire and the length of completion of pilot questionnaire.

Response Rate for Pre- testing of the Questionnaire

Of the 16 questionnaires sent out, 13 questionnaires were completed. Thus, the overall response rate was 81.25%. On the whole, the standard of the questionnaire was considered high and appropriate to be used for intended purpose. In order to suit lay experts, changes were made to the language of the questionnaire.

(b) Field Survey Phase.

The **Table 4.7** outlines how the field work was conducted.

Table 4.7 Household Data Collection Plan

Week	Working Days	Phase 1	Phase 2	Total number of households
		Amansie West District	Shai Osu Doku District	
One	Day 1	15	15	30
	Day 2	15	15	30
	Day 3	15	15	30
	Day 4	15	15	30
	Day 5	15	15	30
	Day 6	15	15	30
Sub Total		90	90	180
Two	Day 1	15	15	30
	Day 2	15	15	30
	Day 3	15	15	30
	Day 4	15	15	30
	Day 5	15	15	30
	Day 6	15	15	30
Sub Total		90	90	180
Three	Day 1	15	15	30
	Day 2	15	15	30
	Day 3	15	15	30
	Day 4	20	15	35
	Day 5	20	20	40
	Day 6	20	20	40
	Day 7	20	20	40
Sub Total		125	120	145
Total	19 Days	305	300	605

Source: Author's Own Construct, 2018

As seen in the Table 4.7, the maximum households targeted was 605 of which only 580 was used. Twenty-five (25) households were reserved as substitutes in case the expected number of questionnaires are not reached or unexpected events occur that might affect the actual sample size anticipated. Data was collected from all these selected LEAP households from the selected districts within the period of three months (12th December, 2017 to 12th February 2018).

For qualitative data collection, in-depth interview guide consisting of open-ended questions was used.

Table 4. 8 FGDs and KIIs Data Collection Plan

Week	Category of interview	Working Days	Phase 1	Total number of participants
			Shai Osu Doku District	
	FGD	Day 1	AYIKUMA	7
	FGD	Day 2	MANTETSE	7
	FGD	Day 3	ODUMSE	7
	FGD	Day 4	SOTA	7
Sub total				28
Two	KII	Day 1	NHIA Officials	2
	KII	Day 2	District Director of DSW	1
	KII	Day 3	District Director of CD	1
Sub total				4
Week			Phase 2	
			Amansie West Districts	
Three	FGD	Day 1	ABIRAM-MANSO COMMUNITY	7
	FGD	Day 2	DOME-BEPOSO	7
	FGD	Day 3	DAWUSASO GYEGYETRESO	7
	FGD	Day 4	SUBINSO-BISEASE	7
Sub total				28
	KII	Day 1	NHIA Officials	2
	KII	Day 2	District Director of DSW	1
	KII	Day 3	District Director of CD	1
Sub total				4
Total		14		64

Source: Author's Own Construct, 2018

As noted in the Table 4.8, the maximum participants targeted was 64. The selection plans for both data collection process gave a fair representation of the population.

4.6.7 Data Analysis and Presentation

4.6.7.1 Qualitative data analysis and presentation

4.6.7.1.1 Thematic Analysis Approach

The method of analysis chosen for qualitative data collected was thematic analysis⁴ (Attride-Stirling, 2001; Braun & Clarke, 2006). Generally, this method is the most widely used qualitative approach to analysing interviews.

This method was adopted by the researcher to produce an insightful analysis of the objective (i) of the study. In addition, this approach complemented the research questions by facilitating an investigation of the interview data.

The qualitative data collected (FGDs and KIIs) were analysed in a similar way based on a three-stage procedure as suggested by Creswell (2007) and Miles and Huberman (1984). The three stages include preparing the data for analysis by transcribing, reducing the data into themes through a process of coding and representing the data.

Step 1: Coding of uploaded text.

The audio recordings of the interviews of 64 respondents were listened to a number of times for their accurate translation and then transcribed after each phase, when information was fresh in the memory of the researcher. Likewise, field notes taken to capture non-verbal cues were added to enrich the transcription. All interviews were transcribed verbatim into English by the researcher. This process was carried out on Microsoft Word Office.

⁴ Thematic analysis is a method used for ‘identifying, analysing, and reporting patterns (themes) within the data’ (Braun & Clarke, 2006).

The transcripts and audio recordings were imported into the NVivo. The researcher begins with the coding by reading data transcripts line by line and identifying coding concepts/major categories found in the data (Johnson & Christensen, 2008). The coding process was guided by the conceptual framework of the study (see Figure 3.4)

Step 2: Development of the themes from the coded text segments.

Working through the data, more nodes (organizing themes) and sub-nodes (basic themes) were developed that explained the patterns of the NHIS enrolment decision from the interviewees' perspectives. For example, there was a Global theme labelled *NHIS enrolment decision* under which there were an Organizing themes (*pre-condition to enrolment, enrolment experience and expected outcomes*) and under this organizing themes there were Basic themes. (See Table 4.9)

Table 4.9 From Basic to Organizing to Global Themes

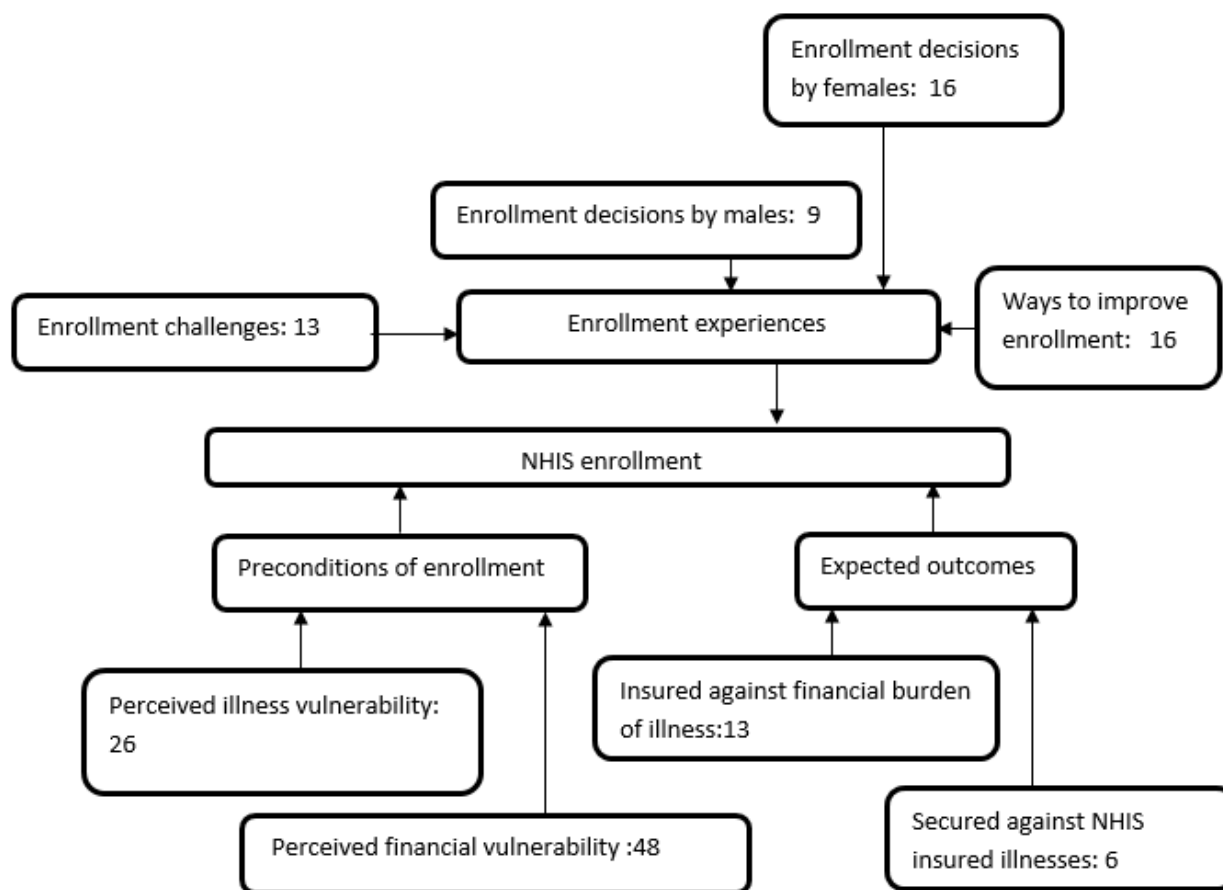
Themes as Basic Themes	Organizing Themes	Global Themes
1.Perceived illness vulnerability	Pre-condition to enrolment	NHIS enrolment decision
2.Perceived financial benefits		
1.Enrolment decision by males	Enrolment experiences	
2.Enrolment decision by females		
3.Registration challenges		
4.Ways to improve enrolment		
1.Reduced financial burden of illness	Expected outcomes	
2.Secured against NHIS insured illness		

Source: Author's Own Construct, 2018

The preliminary analysis as shown in Table 4.9 came up with 3 Organizing themes (*pre-condition to enrolment, enrolment experiences and expected outcomes*) with their basic themes such as *perceived illness vulnerability, perceived financial benefits, enrolment decision by males, enrolment decision by females, registration challenges, ways to improve enrolment, reduced financial burden of illness and secured against NHIS insured illness*. NVivo automatically counts the number of times sources refer to each basic themes. For example, the basic theme most referred to was ‘perceived financial benefits’ (48 times), and the least referred basic theme was ‘secured against NHIS insured illness’ (6 times) The basic theme ‘perceived illness vulnerability’ was referred 26 times, whereas the basic themes ‘ways to improve enrolment’ and ‘enrolment decision by females’ were referred 16 times respectively. According to Braun and Clarke (2006) thematic analysis is flexible because it allows the themes and their prevalence to be determined in a number of ways (See Figure 4.4)

Step 3: Construction of the thematic networks from the themes identifies

NVivo concept maps were used to construct a thematic network that presented a visual summary of how themes spread out and connect in revealing results under the NHIS enrolment. Thus, of the 3 organizing themes that emerged from the preliminary analysis, the thematic network (Figure 4.4) demonstrates NHIS enrolment decision as an illustration. One hundred and forty-seven (147) sources addressed this issue. In this sense NHIS enrolment decision emerged as fundamentally characterized by the motivations, experiences and expected outcomes. This generated an interesting discussion in Chapter 5 of the study.



Source: Author's Construct, 2018

Figure 4.4: Thematic Network of NHIS Enrolment decisions

4.6.7.1.2 Data management

In the course of report writing and establishing the credibility of qualitative data, *the member-checking technique* in which the data, interpretations, and conclusions are shared with the participants was strictly adhered to. The process allowed the researcher to clarify with the respondents what their intentions were, to correct errors, and to provide additional information where necessary. Follow up with respondents was considered important to improve accuracy, dependability and transferability of the information from the interview transcript.

4.6.7.1.3 Selected Variables

In uncovering and understanding the nature of decision-making processes during FGDs with regards to motivation to enrol, enrolment experiences, and expected outcomes from the thematic analysis, some variables were taken into account. These variables include gender, insurance status, education and institutions. (See Table 4.10).

Table 4.10 Selected Variables

Variables	Definitions
Gender	Male/Female
Insurance Status	Insured /uninsured
Education	Not educated / Primary/ Junior High School (JHS)
Institutions	DSW/CD/NHIA/District Health Directorate

Source: Author's Own Construct, 2018

4.6.7.1.4 Identification approach of FGDs and KIIs

The data collected from the 8 FGDs conducted ensured that male and female respondents were allocated equally across all FGDs. In Table AP1-1 in Appendix 1 shows that, out of the 8 FGDs conducted, 50 percent were males, while the remaining were females. Again, health insurance registration status of respondents is deemed a potential factor that can cause significant variations in decision making processes. Therefore, in controlling for this, both insured and uninsured discussants were targeted and included in all the FGDs conducted during data collection. Table AP1-1 in Appendix 1 indicate that out of the 8 FGDs conducted for both male and female, 4 FGDs were insured whereas another 4 FGDs were uninsured. The insurance registration statuses of respondents were also balanced between gender categorizations such that half of the male and

female respondents were respectively insured, while the remaining were equally distributed across uninsured discussants. Table AP1-1 in Appendix 1 further shows that both educated and non-educated individuals were participants in the FGDs. Of all the educated participants, the highest educational level is Junior High School. Thus, FGDs were generally a mixture of slightly educated and uneducated members, which can be insightful in terms of assessing whether decision making varies significantly between educated and non-educated individuals as far as health insurance enrolment is concern.

The institutional representation of KIIs is presented in Table AP1-2 in Appendix 1. The table shows that KIIs were distributed among different relevant institutions such as DSW/DC, NHIA and DHD to ensure that in-depth, well-informed, broad and varied views and perspectives on health insurance enrolment and related issues are elicited in the study. A total of 6 KIIs were conducted, more KIIs were drawn from DSW and NHIA (2 each) compared with community development (CD) and DHD (1 each) because their policies and actions have direct and significant influence on decision makers as far as health insurance enrolment, enrolment experiences, and the expected outcomes are concern.

4.6.7.2 Quantitative data analysis and presentation

The household data was analysed using Statistical Soft-ware STATA version. After the field work, the questionnaires were cross-examined to remove those which were not properly answered. This was followed with inputting of the valid questionnaires into the SPSS software. The data entered were cleaned and edited to ensure that data entry errors will not threaten the validity of the research. To address the specific objective (ii) (iii) and (iv), the propensity score matching (PSM) technique (Rosenbaum & Rubin, 1983) was used to analyse the effect of NHIS membership on consumption,

healthcare use and OOPHE among the poorest households. It was applied to estimate the difference in outcomes between insured and uninsured groups.

4.6.7.2.1 Theoretical framework and empirical model

The EUT assumes an individual with a utility (see Chapter 3 for details on EUT) is defined as a function of disposable income, Y , such that

$$U = u(Y) \quad (1)$$

The utility function is assumed to diminish in income $u' < 0$.

At a time, the individual faces a probability to fall ill (p) and $1 - p$ to be in good health. In the event of ill health, the individual incurs a cost of, L to cover medical expenses. The expected utility of this individual is denoted as

$$EU = (1 - p)U(Y) + pU(Y - L) \quad (2)$$

In the presence of a market for health insurances, the individual is assumed to be risk averse and will purchase an insurance cover at the actuarially fair premium of $P = pL$. An individual with insurance cover receives a transfer (I), which is equal to the cost of medical expenses.

$$EU = (1 - p)U(Y - P) + pU(Y - L + I - P) = U(Y - P) \quad (3)$$

In this study however, the sample households do not face the cost of paying a premium. These sample households are exempted from paying premium as a policy directive. However, the household may face non-monetary cost to enrol onto the insurance scheme such as the opportunity cost of time; including forgone wages.

With an insurance cover, the expected utility faced by an individual is expressed as

$$EU = (1 - p)U(Y) + pU(Y - L + I) \quad (4)$$

An individual will enrol onto the scheme if the expected utility gained from the insurance is greater than the expected utility without insurance. The individual's choice is between certain losses and uncertain actuarially-equivalent losses.

In this study, we expect that an individual with a high probability of ill health (p) are more likely to enrol onto the scheme.

In the absence of an objective measure of the probability of ill health (p) the HBM provides a framework to assess the individual behaviour and investment in health including the decision to enrol into health insurance scheme. The HBM stipulates that health related behaviour is a function of a person's perception of the threat posed by susceptibility of illness condition, the severity of the ill health and expected benefits of an insurance cover during an episode of ill health.

As an individual who perceives that he or she is susceptible to ill health that is a high self-evaluated probability of ill health (p) is likely to enrol on the insurance scheme. Similarly, an individual who perceives higher net benefit is also likely to enrol onto the scheme. The perception of ill health and the benefits from enrolling onto the scheme maybe influenced by other individual and other household socio-economic characteristics.

Individuals may face a social cost to enrol onto the NHIS as an exempted status; as such exemption may indicate their poor economic state. This social cost may impede their enrolment decision. For individuals who perceive benefits from health insurance cover exceed the social cost of exemption for the premium payment are likely to enrol.

In the study we are analysing the effects of NHIS membership on OOPHE. Insured households receive pay off transfer (I) that covers the cost of medical expenses in the occurrence of ill health. Uninsured households do not get such benefits and so they must pay out of pocket which means that uninsured households suffer an income loss as a result of medical cost.

One of the major barriers to health care use is payment of medical bills. Being enrolled onto health insurance reduces the financial barrier to healthcare access. Thus, households who are insured are more likely to visit the hospital in the event of ill health than the uninsured households because they not incur direct financial cost.

In a case of consumption, for insured households even in the event of ill health, their income losses arising from the cost of medical care is minimal compared to uninsured households as they received a pay off transfer (I) that covers the cost of medical care during ill health. Uninsured household may divert income or resources from consumption to cover the cost of medical care during an episode of ill-health, leading to decreased consumption. If that is the case, we expect to find that the insured households are likely to have a higher consumption than uninsured households especially given that households are not paying a premium to enroll.

4.6.7.2.2 Propensity Score Matching (PSM) Technique

Addressing possible selection bias due to the non-random enrolment onto NHIS, the propensity score matching (PSM) technique was used to examine the causal effects of NHIS membership on household consumption, healthcare use and OOPHE.

In this study treatment assignment is defined by the health insurance status of the household heads, such that insured household heads are the treated group and uninsured household heads are the control group.

To carry out the PSM techniques, the following steps were taken;

- 1. To estimate the probability that a household head has received NHIS based on observable characteristics.**

A propensity score matching process (Rosenbaum & Rubin, 1983) was conducted between household heads enrolled onto NHIS (insured) and those otherwise (uninsured). The propensity score $p(X)$ can be defined as the conditional probability of a household head having NHIS given observable characteristics (X) is given by;

$$p(X) = \Pr(D = 1|X) \quad (5)$$

Probit model was used to estimate the propensity scores. The propensity scores are obtained from a probit regression model of the form

$$D = \beta X_i + \varepsilon_i \quad (6)$$

Where:

X_i is a vector of household and household head characteristics which include sex, age, marital status, literacy status, educational level, occupation, religion, perceived health status, hospital consultation, disability status and chronic illness status.

β is a vector of parameters to be estimated.

ε_i is a random error term

D is the indicator whether a household head is insured (1) or a household head is not insured (0).

The probability of a household receiving treatment is obtained from the probit regression as

$$P_{Treat} = \Pr(D = 1|X_1) = \Pr(\beta X_1 + \varepsilon_i) = \phi(\beta X_i) \quad (7)$$

Where:

ϕ is the cumulative density function of the standard normal distribution.

2. The next step is to match the sample base on the propensity scores.

Matching involves comparing treatment and control group with similar observable characteristics.

Observations are matched to create a control group that will be similar to the treatment group

according to observable characteristics. Where there are no matches, a group is dropped because a common point for comparison does not exist. Dehejia and Wahba (2002) asserted that matching methods can yield an unbiased estimate of the treatment impact when the relevant differences between the treatment and control samples are captured in the observable characteristics or covariates.

To obtain statistically equal likelihoods of group assignment, the study used propensity scores to match treatment group with observationally similar control group. The approach, therefore will address the problem of the limited distributional assumption of the errors, and more essentially allow for a decomposition of the treatment effect on outcomes (Rosenbaum & Rubin, 1983).

(a) Balancing Test

The balancing and conditional independence assumptions must be satisfied to ensure robust estimation of the propensity score. The balancing assumption explains that conditional on the propensity score, each household head must have the same likelihood of participating in NHIS just as in a randomized experiment. According Hujer, Caliendo and Thomsen (2004), the balancing assumption is satisfied when observable characteristics, X is balanced.

The Conditional Independence Assumption (CIA) states that once the set of observable characteristics, (X) are controlled for, the treatment variable (NHIS participation), and the outcome variables (consumption between insured and uninsured households' heads, health care use and OOPHE) must be equal to zero.

Again, to assess the matching quality, the propensity scores was re-estimated for insured households' heads and uninsured household's heads. This matching quality is achieved if there are balanced covariates, which requires a very low pseudo- R^2 and F-statistics with a probability of zero after matching (Sianesi, 2004). Statistically;

$$p(X) = \Pr(D = 1|X) = \Pr(D = 0|X) \quad (8)$$

(b) Matching Techniques

There are several matching algorithms to match treatment and control group of similar propensity scores. The most widely used algorithms include the nearest neighbour matching, the kernel matching, stratification matching caliper or radius matching methods. Despite all these matching algorithms, a particular one to be used will depend on the data collected.

The **nearest neighbour matching algorithm** matches insured households' heads to a closest uninsured household head based on propensity scores. In this type of matching algorithm, matching may be carried out "with" or "without" replacement.

Kernel matching algorithm uses the weighted average outcome of the uninsured household head to match each insured household head to the uninsured household head. According to Heinrich, Maffioli, and Vázquez (2010) this method produces low variance as a result of the volume of information used in the estimation.

Stratification matching algorithm ensures that the common support of the propensity scores is subdivided into strata. In this type of matching algorithm, the treatment effect within each stratum is calculated using the mean difference in the outcome variable.

In **caliper matching algorithm** a maximum propensity score distance is specified, where several of the uninsured are matched within pre-defined propensity score radius. In caliper matching method, matching is done based on the available comparison units within the caliper.

As cited by Becker and Ichino (2002), the type of algorithms method used depends on the research as there is no clear rule that make one technique better than the other. Therefore, insured household

heads and uninsured household heads will be matched one-to-one or one-to-many based on their propensity scores.

In one-to-one matching, one insured member of the household is matched to only one close related uninsured member of the household; whereas in one-to-many matching each uninsured household head is matched to more than one closely related insured member of the household.

The study therefore, applied both the nearest neighbour matching and kernel matching algorithms to estimate the Average Treatment Effects on the Treated (ATT).

(c) Estimation of Treatment Effects

After the balancing assumptions is satisfied, the means of the outcome variables are compared between the treatment and the control groups. This gives the average treatment effect on the treated (ATT) which measures the effect of the treatment on the insured households' heads, and should be without any bias as the matching is supposed to overcome the self-selection issue.

Given a population of units denoted by i , if the propensity score $p(X_i)$ is known, average treatment effect on the treated (ATT) can be estimated as follows:

$$ATT = E[Y_{1i}|D = 1, p(X_i)] - E[Y_{0i}|D = 0, p(X_i)] \quad (9)$$

Where $D = 1$ refers to the treatment

Table 4.11 Expected ATT effects on outcome variables

Outcomes	Expected ATT	Reasons
Consumption	Positive (+)	Health insurance cover depletes additional expenses from health services, therefore smoothen consumption among the insured.
Healthcare use	Positive (+)	Enrolment onto NHIS increase access to basic health services among subscribers, and this is more likely to increase healthcare use
Out of pocket health expenditure (OOPHE)	Negative (-)	Health insurance cover minimized insured households out of pocket payments at the point of use of service as it covers most of the medical bills.

Source: Author's Own Construct, 2018

4.6.7.2.3 Definition of variables

(a) Outcome Variables

Household consumption

Consumption according to Investopedia is the process in which the substance (goods and services) is completely destroyed, used up, or incorporated or transformed into something else by a household in a particular time period.

Alternatively, consumption expenditure of households' heads is used to compare the consumption between the insured and uninsured. In the study, this comprises of all the consumption expenses that households' heads made for consumption. These expenses are made on (FA) staple foods (maize, rice, cassava, sorghum, yam, plantain, etc.), (FB) legumes and vegetables (beans, groundnut, cow pea, tomatoes, okro, garden eggs, etc.), (FC) animals and milk products (meat, fish, eggs, etc.) and (FD) rent, utilities (electricity, water), cooking oil, clothing (cloths, cosmetics), work tools (hoes, cutlass), educational expenses, medical care and health expenses among others. Participation in NHIS membership is more likely to improve consumption level among its

subscribers (Kirdruang & Glewwe, 2018; Levine, 2008; Sorensen et al., 1998; Wagstaff & Pradhan, 2005). Levine (2008) for instance, reported that health insurance smoothen consumption among the insured because it depletes additional expenses from health services. See Household Survey Questionnaire (F5a), in Appendix 3 (I).

Health care use

Health care use in study refers mainly to the use of health care services (Culyer, van Doorslaer & Wagstaff, 1992b) by a household member for the purpose of preventing and curing illnesses, promoting maintenance of health and well-being, or obtaining information about one's health status and prognosis. It was measured as the number of consultation/s made by a household head at least in 12 months for health services (diagnostic or treatment) against NHIS membership.

This variable is measured with a question that asked respondent (household head) how many times they consulted a healthcare facility in the last 12 months. Alkenbrack (2011) and Saksena et al. (2010) in their studies indicated that there is a positive effect of NHIS on healthcare use. Sekyi (2009) also disclosed in his study that insurers are highly likely to use outpatient care and as well pay less than uninsured. Thus, participation in NHIS membership is more likely to increase healthcare use among subscribers. These results are a count variable given by:

1=Not at all; 2=1-3 times; 3=4-6 times and 4=Above 6 times. See Household Survey Questionnaire (G7a), in Appendix 3 (I).

Out of Pocket Healthcare Expenditure (OOPHE)

This variable is measured with a question that asked respondent (household head) whether they pay extra monies for healthcare services though they hold valid NHIS card. Aryeetey et al. (2016) and Saksena (2010) in their studies reported that health insurance cover minimized insured households OOPHE at the point of use of service. Nevertheless, Aryeetey et al. (2016) asserted

that household members have a possibility of experiencing significant OOPHE for inpatient health services. This binary response variable is measured on dichotomous scale given by:

1= Extra monies paid, 2= No extra monies paid. See Household Survey Questionnaire (G12a), in Appendix 3 (I).

(b) Explanatory Variables

Sex

Sex of the respondent indicates the gender of a household member. This variable was coded 1 for males and 0 for females thus making it dummy. Boamah (2015), Jehu-Appiah et al. (2011) and Sekyi (2009) in their studies found out that gender positively influenced NHIS at a very high significance level. However, some studies, found females to have increasing effects on other related outcome as a result of their participation in NHIS membership. Other studies also found males to have otherwise. Hence, the expected effect of gender on NHIS membership and other related outcomes are therefore ambiguous.

Age

Age is a continuous variable and is measured in years. The age of the respondent has been extensively demonstrated as a predictor of NHIS membership and this subsequently influences other related outcomes (consumption, healthcare use and OOPHE). Across different studies, evidence showed that the elderly people stand at greater odds of enrolling onto NHIS membership (Amponsah, 2009; Hess, 2015; Jehu-Appiah et al., 2011). Amponsah (2009) in his studies for instance, found that women of over 40 years are more likely to participate in NHIS to have positive outcomes. Again, Hess (2015) also explained that aging adults are more consequential. Hence, relative to younger adults, the aged adults are willing to grasp the good of healthcare services

(other related outcomes) by enrolling onto NHIS. Nevertheless, difference in age categories affects NHIS membership. In some instances, women and children are more likely to enrol onto NHIS compared with other groups (Antwi, Zhao, Boadi, & Koranteng, 2014) and this consequently have effects on other related outcomes. This variable is codes as 1 if 18 -65 and 2 if above 65.

Marital Status

In deciding to participate in NHIS membership, marital status plays a very important role. Respondents who were married consistently had higher odds of enrolling into NHIS and this subsequently have effects on other related health outcomes (consumption, healthcare use and OOPHE). This variable is coded 1 if married and 0 if not married.

Literacy Status

This variable is related to respondents who are able to read and write English and also those who are able to read and write any local language. Seyki (2009) and Sekyi et al. (2015) found out in their studies that literacy affects household member enrolment onto the NHIS, and this consequently have effects on other related health outcomes. The variable is coded as 1 if literate and 0 if not literate.

Level of education

Across different settings, the increase in the education level of respondents increases the odds of participating in NHIS membership and this subsequently have effects on other related health outcomes (Aglobitse & Addai-Asante, 2015; Antwi & Zhao, 2012; Boamah, 2015; Jehu-Appiah et al., 2011; Sekyi, 2019). Findings of Amo (2014) for instance showed a significant association between level of education and enrolment in NHIS. He indicates that people with higher level of education have a higher level of subscription of NHIS and thus successively impacts their other

related outcomes compared to those with lower level of education. This variable is coded as 0 if never been to school, 1 if primary, 2 if JHS, 3 if middle school and 4 if others.

Occupation

A respondent's occupation is very essential in affecting the participation in NHIS and this subsequently influences on other related health outcomes. Aglobitse & Addai-Asante (2015) in their study found out that those who are employed have a strong probability to enroll onto NHIS than those who are not employed. This variable is coded as 0 if unemployed, 1 if farming/fishing, 2 if trader/business, 3 if artisan and 4 if others.

Religion

The religious affiliations of households' members upsurge the odds of participating in NHIS membership and this subsequently impacts on other related health outcomes. In some settings, households' members affiliated to some religion including Christianity, Islam, and Tradition were more likely to participate in NHIS membership which turn to have effects on other related outcomes compared with those who were not affiliated to any religion (Jehu-Appiah et al., 2011). Nevertheless, in Muslim dominated setting, males who were Muslims were more likely to have never enrolled which turn to have effects on other related outcomes compared with their Christian counterparts. This variable is coded as 1 if Christianity, 2 if Muslim, 3 if Traditional, 4 if none and 5 if others.

Perceived Health Status

The health status of respondents influences their decision to enrol onto NHIS and this subsequently impacts on other related health outcomes (Alkenbrack, 2011; Boateng & Awunyo-Vitor, 2013; Boamah, 2015; Jehu-Appiah et al., 2011; Zhang & Wang, 2008). Alkenbrack (2011) in her study, reported that less healthy households' members are more insured than those of no health deformity.

For instance, individuals with chronic conditions (Zhang & Wang, 2008) and hospitalized (Parmar, Williams, Dkhimi, Ndiaye, Asante, Arhinful, & Mladovsky, 2014) are more likely to enrol in NHIS scheme compared with those with no such conditions. This variable is coded as 1 if good and 0 if poor.

Disability Status

This relates to any form of disability which is applicable to a respondent. The variable is coded as 1 if disability and 0 if no disability.

Chronic illness Status

This relates to the chronic illness which is applicable to a respondent. The variable is coded as 1 if chronic illness and 0 if no chronic illness.

Hospital Consultation Status

This variable is measured with a question that asked a respondent or household head whether during the last 12 months the respondent has consulted any health care facility. This variable is coded as 1 if consultation and 2 if no consultation.

Table 4.12 Household Characteristics used to estimate Propensity Scores

Variables	Meaning	Measurement
HH head	Household head	Yes =1 No = 0
Sex	Sex of respondent	Male =1 Female = 0
Age	Age of respondent	Years
Marriage	Marital status of respondent	1 = Single 2 = Cohabiting/informal/Consensual 3 = Married 4 = Divorced 5 = Separated 6 = Widowed
Literacy	Literacy of the respondents	Yes =1 No = 0
Education	Level of education of respondents	0 = Never been to school 1 = Primary 2 = JHS 3 = Middle school 4 = Others
Employment	Primary occupation of respondent	0 = Unemployed 1 = Farming/Fishing 2 = Trader/Business 3 = Artisan 4 = Other
HH size	Household size	Number of persons in the household
Religion	Religion of respondent	1 = Christianity 2 = Muslim 3 = Traditional 4 = None 5 = Others

Source: Author's Construct, 2018

4.6.8 Reliability and Validity

4.6.8.1 Reliability

Reliability is also called repeatability over time (Greener, 2008) and is defined as the extent at which the techniques used to collect and analyze data will yield consistent and repetitive results (Bhattacharjee, 2012; Saunders et al., 2009). This requires consistency, and repetitiveness can be threatened by (a) participant bias in responses or due to misrepresentation of facts (spurious facts), (b) participant error due to inconsistency in responses, (c) observer error due to unstructured questions, and (d) observer bias in reporting replies (Bhattacharjee, 2012; Greener, 2008; Saunders et al., 2009). These are the possible threats undermining reliability in research.

To achieve reliability, the research instruments were structured rigorously to acquire same data across all subjects to produce same results. All inputs in the form of comments, suggestions, ideas, corrections and views were taken into consideration to improve the reliability of the instrument.

In addition, research instruments were made auditable (i.e. clear and transparent) to be repeatable and reviewed by anyone at any time. The questionnaire designed for the household survey contains both open and closed-ended questions as well as Likert scale statements, purposely to ensure standardization for all respondents. This is to ensure that the measures and variables developed in the questionnaire were appropriate. Adding to this, a Cronbach's alpha analysis to test internal consistency produced 0.70. This showed that the questionnaire was reliable.

Moreover, the researcher did not allow any respondent or interviewee to send questionnaire or interview guide home. Meaning, all interviews and surveys were done face to face.

4.6.8.2 Validity

According to Saunders et al., (2009), validity is a determination of whether a study's outcomes are exactly what it was expected to be; that is, whether a study achieved its intended purpose (Greener,

2008; Creswell, 2009; Boateng, 2014). Validity of a study can only be achieved when its research instrument measures what it was intended to measure (Boateng, 2014; Creswell, 2009; Greener, 2008). Aside that, validity can be internal, which relates to causality, and/or external- referring to the generalizability of findings (Boateng, 2014; Creswell, 2009; Greener, 2008; Saunders et al., 2009).

Although the intention of the study is not to generalize findings, however, to ensure the outcome of the study is of validity, the researcher adopted a mixed method approach of data collection techniques, using both household survey and personal interviews. The issues of external and internal validity were overlooked, as the findings of the study were presented to the respondents for their feedback and modification and the work was peer reviewed by some scholars in the field of the research.

Likewise, all the various research instruments were pre-tested before the actual data collection phases started. The objective of the pretesting was to ensure that the designed instruments contain questions that could capture responses exactly as what is required to answer research questions across several conditions; respondents understand the instructions, the questions being asked; misleading questions were eliminated; all errors emanating from the pre-test corrected; and clarity and efficiency is established.

Again, to prevent misrepresentation, the researcher ensured that rightful participants (interviewees and respondents) were interviewed based on the questions stipulated in the designed interview guides and questionnaires.

4.6.9 Ethical Consideration

Polit and Beck (2004) defined research ethics “as a system of moral values that is concerned with the degree to which research procedures adhere to professional, legal and sociological obligations to the study participants”. Greener (2008) also viewed research ethics as a moral choice that affect decisions and standards, and behaviour.

In this current research study, the researcher complied with the institutional requirements by obtaining an ethical clearance from the Ethical Review Committee for the Humanities in University of Ghana before data collection phases. In the review of the literature for the study, the researcher further conformed to ethical standards. The researcher ensured that all documents used and sites visited were properly acknowledged and documented to avoid issues of plagiarism. Again, all literature used are appropriately cited and referenced.

During the data collection phases and analysis phase of the study, ethical principles were also followed. Consent was sought from the Shai-Osu Doku District, Amansie West District, NHIA, LMU, and the District Health office as well as study households. No respondent/interviewee was engaged without being briefed about the nature, purpose and importance of the study and the need of his/her participation. They were informed that the study is purely for academic purposes and not for reasons other than that. With that, all participants (interviewees and respondents) selected were informed about the work before the actual day of collecting the data. This also included the introduction of the field interviewers and the researcher for every participant to know their identity. During the quantitative data collection exercise, no participant was forced to participate or respond to questions in the research instrument. Meaning that, participants can: (a) discontinue participation, (b) choose to respond or not respond to any question, (c) change their mind about being part of the study, and (d) cancel already provided response(s). Further, the researcher also

made sure that the duration of the interview was communicated to the interviewees/respondents, and allowed every participant to feel responsible to the interview.

Consent was sought from interviewees before electronic device was used to record their responses during the qualitative data collection. Much more, to ensure that the interviewees understood the exercise and gave appropriate responses, both English and local dialects (Krobo, Ga, Twi) were used, particularly with those who can neither speak nor write in English. The final responses were as transcribed back to English for the analysis. Transcription of the data collected was done by the researcher himself verbatim to avoid misrepresentation and misinterpretation.

Furthermore, for assurance of data confidentiality and anonymity, the researcher ensured that all information provided was not disclosed to the public and participants were again assured of privacy.

Lastly, the study adhered strictly to its adopted strategies and methods without any consideration of external influences. The researcher became an internal observer throughout the data collection stage to maintain objectivity throughout the stages of data collection, analysis and reporting.

4.6.10 Challenges Encountered in the Fieldwork

The sensitive nature of the research instruments and locations of respondents made data collection difficult during the initial phase of the data collection for both selected districts. This was partly because most respondents digressed from the issues about their health, wanting to ascertain how beneficial such studies will be to their health needs since previous researches conducted in their communities have not resulted in any significant improvement in their health needs. This resulted in delays in the initial phase of the study.

Another challenge was with the sampling of respondents and the techniques adopted for the research which created some methodological problems.

CHAPTER FIVE
RESULTS OF NHIS ENROLMENT DECISIONS AMONG THE
POOREST HOUSEHOLDS

CHAPTER FIVE

5.0 ANALYSIS AND DISCUSSION

5.1 Introduction

This chapter presents and discusses the results of the data analysis of the interview responses from both the FGDs and KIIs in accordance with the objective stated in chapter one. The chapter is made up of two sections: the first section presents the results of basic themes under pre condition to enrolment, enrolment experiences and expected outcomes of interviewees are captured. The second section compares existing theories to NHIS enrolment from the study, and discussed applicable theory that explains NHIS enrolment decisions among poorest households in Ghana.

The chapter starts with an introduction and the specific objective of the study.

5.2 Specific Objective

The primary objective that guided the data collection, and upon which the analysis is presented in this section was to explore the factors that influence NHIS enrolment decisions among the poorest households' using LEAP beneficiaries in Shai Osudoku and Amansie West Districts

Specifically, the chapter sought to:

- i. Examine the applicability of the EUT, SDUT and HBM on NHIS enrolment decision in the context of Ghana.

5.3 Discussion on the basic themes under pre condition to enrolment, enrolment and expected outcomes.

Table 5.1 Coding Frequency for FGDs

FGDs	FGD 1	FGD 2	FGD 3	FGD 4	FGD 5	FGD 6	FGD 7	FGD 8	Total
NHIS membership	I/F	U/F	I/F	U/F	I/M	U/M	I/M	U/M	
Themes									
1.Preconditions to enrolment									
<i>Basic themes: Perceived illnesses vulnerability</i>	*	*	*	*	*	*	*	*	8
<i>Basic theme: Perceived financial benefit</i>	*	*	*	*	*	*	*	*	8
2.Enrolment Experiences									
<i>Basic themes: Enrolment decision by females</i>	*	*	*	*		*	*	*	7
<i>Enrolment decision by males</i>	*			*	*	*	*	*	6
<i>Registration challenges</i>	*	*	*	*	*	*	*	*	8
<i>Ways to improve enrolment</i>	*		*	*	*	*	*	*	7
3.Expected outcomes									
<i>Basic themes: Reduce financial burden</i>	*	*	*		*	*	*		6
<i>Secured against NHIS insured illnesses</i>			*		*	*	*		4

* shows the spread of basic themes and reference by respondents

Source: Author's Construct, 2018

Table 5.2 Coding Frequency for KIIs

KIIs	KII 1	KII 2	KII 3	KII 4	KII 5	KII 6	Total
NHIS membership							
Themes							
1.Pre-conditions to enrolment							
<i>Basic themes: Perceived illnesses vulnerability</i>		*	*	*			3
<i>Basic theme: Perceived financial benefit</i>	*	*		*	*	*	5
2.Enrolment Experiences							
<i>Basic themes: Enrolment decision by females</i>			*				1
<i>Enrolment decision by males</i>							
<i>Registration challenges</i>				*	*	*	3
<i>Ways to improve enrolment</i>			*	*	*	*	4
3.Expected outcomes							
<i>Basic themes: Reduce financial burden</i>							
<i>Secured against NHIS insured illnesses</i>							

* shows the spread of basic themes and reference by respondents

Source: *Author's Construct, 2018*

5.3.1 Pre-condition to Enrolment

The coding frequency results in Table 5.1 indicate two main factors that motivated decision makers (household heads) to enrol onto NHIS in Ghana, namely high illness vulnerability and perceived financial benefits.

5.3.1.1 Illness vulnerability

Illness vulnerability is defined in this study as the socio-economic and dwelling characteristics of a person, including the sanitation condition, source of drinking water, type of toilet facility, housing living conditions, diet, age and pregnancy, among others, which predispose him or her to

high risks of diseases. On this basis, household heads who are more vulnerable to illnesses are more likely to enrol onto NHIS compared with those who are less vulnerable.

The coding frequency in Table 5.1 shows that at least 1 discussant in all the 8 FGDs conducted affirmed illness vulnerability as one of the main factors that motivated them to enrol onto NHIS. In addition, the coding frequency in Table 5.2 also indicates that 3 discussants out of the 6 participants in KIIs conducted affirmed illness vulnerability as one of the main factors that motivated them to enrol onto NHIS.

Table 5.3 Motivation to Enrolment: Summary of Perceived Illness vulnerability quotes

Name	References	Coverage
Abiram-Manso - Uninsured FGD	4	4.86%
Ayikuma - Insured Male FGD	7	7.81%
Dawusaso Gyegyetroso - Insured Female FGD	6	8.97%
Dome Beposo- Uninsured Female FGD	2	1.83%
KII - Amansie West – DSWO	1	5.86%
KII - Amansie West - MIS Health Insurance	1	2.47%
KII - Shai-Osudoku – DSWO	2	6.61%
Mantetse- Insured Female FGD	2	2.59%
Odumse- Uninsured Female FGD	2	2.66%
Sota - Uninsured Male FGD	1	0.76%
Subinso - Edubiaso - Insured Male FGD	1	2.46%

Source: Qualitative Data, 2018.

In Table 5.3 illness vulnerability as a motivation for NHIS enrolment received its highest testimonies (7) from insured male household heads at FGD/Ayikuma with a coverage of about 7.81%, followed by 6 testimonies of insured female household heads at FGD/Dawusaso Gyegyetroso with a coverage of about 8.97%.

Thus, Tables 5.1, 5.2 and 5.3 respectively show that illness vulnerability generally influences household heads decisions to participate in NHIS. This is consistent with Alkenbrack (2011),

Boateng and Awunyo-Vitor (2013) Schneider (2004), Zhang and Wang (2008). For instance, Boateng and Awunyo-Vitor (2013) in their study indicate that perception of health status of respondents significantly influences their decision to enroll and remain in NHIS.

The testimonies from the 8 FGDs further show that illness vulnerability is a factor that influences NHIS enrolment among poorest household heads. For example, in FGD/Ayikuma, an insured male participant said:

...for securing my health for future, because my disease needs frequent check-ups, so there is the need for me to enrol onto health insurance. It helps me to manage the disease to bring its effects down [Male participant, insured, Ayikuma, in Table AP1-3 Appendix 1; FGD].

The quote implies that having a protracted or long-term illness makes an individual more vulnerable to illness and therefore, such household heads are more likely to enrol onto health insurance in order to prevent crisis or manage the disease. Therefore, any condition that increases illness vulnerability of a household head is itself a motivation factor for NHIS enrolment. However, a female participant referenced age as a factor that increases household illness vulnerability, and thereby a motivation to enrol onto NHIS. She said;

...Yes, as for the aged, we are more prone to chronic diseases such as BP, hence, the need for insurance cover as we cannot bear the cost alone in such situation... [Female participant, insured, Dawusaso-Gyegyetroso, Table AP1-3 in Appendix 1; FGD].

These imply that illness vulnerability is the dominant factor that motivated household heads to enrol onto NHIS.

In Table 5.3, male household heads who are insured referenced illness vulnerability by 7 as a motivating factor compare to insured female household heads who referenced illness vulnerability by 6. Nevertheless, the coverage of the insured female (8.97%) outweighed the coverage of the insured male (7.81%). This implies that whereas illness vulnerability is the modal motivation factor for NHIS enrolment among insured male household heads than insured females, it is considered the most highly weighted factor among insured females. Thus, females consider themselves more vulnerable to illness than males and therefore, they attach greater premium to NHIS.

It is worth noting that some of the male household heads actually enrolled their wives onto NHIS instead because of the belief that females are more vulnerable to illnesses than males, especially when they are pregnant.

Any time my wife got pregnant it comes with complications hence the need for health insurance. Some women also get ill often during pregnancy [Male participant, insured, Ayikuma, Table AP1-3 in Appendix 1; FGD].

The quote implies that pregnancy increases a household head's illness vulnerability, and as a result, males are more likely to enrol their wives onto NHIS, especially anytime the wife or other female member of the household is pregnant in order to deal with the unanticipated complications. Therefore, pregnancy increases women illness vulnerability, which in turn, increases the probability to enroll onto NHIS.

Again, in Table 5.3 illness vulnerability, however, had the lowest referenced (1) as a motivating factor by uninsured male household heads at FGD/ Sota and FGD/Subinso- Edubiaso, with coverage of 0.76% and 2.46% respectively. By implication, illness vulnerability is the least factor that will motivate uninsured households' members to enrol onto NHIS, especially among male.

This confirms the notion that those who are currently uninsured and are probably unwilling to join the scheme believe that they are less vulnerable to illnesses or barely contract diseases. However, in Table 5.3, all the KIIs, including 2 DSWOs and 1 NHIA staff confirmed that vulnerability to illness, due to poor economic and living conditions, is a key driver of NHIS enrolment in the selected communities. A DSWO asserted that enrolment of LEAP beneficiaries onto health insurance scheme is due to their vulnerability to sicknesses.

...Registration onto the scheme (health insurance) is one of the conditionalities for all LEAP beneficiaries who are faced with poor health condition and uncertainty when sickness occurs... [DSWO, Amansie West District, Table AP1-3 in Appendix 1; KII]

5.3.1.2 Perceived Financial benefits (Guaranteed Financial access to Health care)

The main objective of NHIS to the subscriber is to guarantee free constant access to and financial coverage to basic health services at all times. The results from coding frequency in Table 5.1 presents that at least 1 discussant in all the 8 FGDs conducted affirmed guaranteed financial access to health care as other motivation factor to enroll onto NHIS. More so, the coding frequency in Table 5.2 shows that at least 3 discussants out of 6 participants in KIIs conducted affirmed guaranteed financial access to health care is another motivation factor to enroll onto NHIS.

Table 5.4 Motivation to Enrolment: Summary of Perceived Financial benefits quotes

Name	References	Coverage
Abiram-Manso - Uninsured Male FGD	3	3.91%
Ayikuma - Insured Male FGD	3	4.14%
Dawusaso Gyegyetroso - Insured Female FGD	3	4.44%
Dome Beposo- Uninsured Female FGD	7	10.58%
KII - Amansie West - Health Directorate	4	28.20%
KII - Amansie West – DSWO	1	6.29%
KII - Shai-Osudoku – DSWO	1	9.77%
KII - Shai-Osudoku - NHIS Officers	2	5.92%
KII - Shai-Osudoku – DCDO	1	3.42%
Mantetse- Insured Female FGD	8	10.09%
Odumse- Uninsured Female FGD	6	8.21%
Sota - Uninsured Male FGD	2	2.12%
Subinso - Edubiaso - Insured Male FGD	6	9.56%

Source: Qualitative Data, 2018.

The results in Table 5.4 also show some higher coverage percentages for both FGDs/KIIs with regards to guaranteed financial access to health care. For instance, the Table 5.4 indicates 7 testimonies with a coverage of 10.58% by uninsured female household heads at FGD/Dome-Beposo, 8 testimonies with a coverage of 10.09% by insured female household heads at FGD/Mantetse, 6 testimonies with coverage of 9.56% by insured male household heads at FGD/Subinso- Edubiaso and coverage of 8.21% referenced by 6 uninsured male household heads at FGD/Odumse, respectively. The Table 5.4 also shows 4 testimonies with coverage of 28.20% by KII /Amansie West Health directorate and a testimony with coverage of 9.77% by KII /Shai-Osudoku respectively.

Thus, the results presented in Tables 5.1, 5.2 and 5.4 show that guaranteed financial access to health care is other factor that motivates household heads to enrol onto NHIS. This result is consistent with the study of Schneider (2004) who identified financial risk as reason to describe insurance enrolment decisions among individuals in low-income environment.

Again, Table 5.4 displays three (3) of the discussants that participated in the 8 FGDs widely linked their NHIS enrolment to guaranteed financial access to health care were all females, of which two are uninsured, and the remaining one is insured. These female household heads discussants referenced 21 on guaranteed financial access to health care. At FGD/Mantetse, 8 testimonies with coverage of 10.09% by insured female household heads, FGD/Dome-Beposo 7 testimonies with coverage of 10.58% by uninsured female household heads and FGD/Odumse 6 testimonies with coverage of 8.21% by uninsured female households' heads respectively. This implies that financial access to healthcare, which is determined largely by the perceived financial status of household heads, is the single most important motivation for females to enrol onto NHIS compared to males. Thus, according to the GSS (2015) women are poorer than men, and most of these poorest women have limited financial resources to access to basic health care. Therefore, the implementation of NHIS among LEAP individual households' members is to provide financial coverage for these vulnerable groups. Hence, most of these females' household heads enroll on to NHIS to guarantee their access to health care. A woman in Mantetse lamented;

...I do not have money so I have to enrol onto NHIS so that when I visit the hospital I will have free healthcare services because I do not really work...
[Female participant, insured, Mantstse, Table AP1-3 in Appendix 1; FGD].

This implies that females, especially those in traditional communities who do not work lack adequate income to pay for their hospital bills anytime they consult a healthcare facility. As a result, majority of them resort to NHIS to ensure that they have guaranteed financial access to healthcare even when they do not have money.

Another female household head discussant linked their NHIS enrolment to risks and uncertainty in health expenditures, which may be catastrophic and hence deny them access to healthcare. For example;

I enrolled onto health insurance because of the dangers of illness and not able to pay in the future. I can fall sick any time or involved in an accident and I do not have money to pay [Female participant, insured, Mantetse, Table AP1-3 in Appendix 1; FGD].

This confirms that females seeking to lessen their health expenditure enrol onto NHIS to have guaranteed financial access to healthcare at all times. A considerable number of female household heads discussants who are economically impoverished and therefore depend on NHIS membership as a safety net to have guaranteed financial access to health care are widows. For example;

...some of us are widows so we may not have the financial muscle and where the husbands are alive, they usually do not have the financial strength to take care of the children when they take ill all of a sudden... [Female participant, widow, uninsured, Dome-Beposo, Table AP1-3 in Appendix 1; FGD].

...For me, I cannot work again and I am staying alone too because my daughter has left me due my frequent visit to the hospital, so I have to enrol onto the health insurance to help myself... [Female participant, widow, uninsured, Dome-Beposo, Table AP1-3 in Appendix 1; FGD].

In Table 5.4, guaranteed financial access to healthcare is, however, the least important motivation for male household heads to enrol onto NHIS. Only 8 male household heads discussants related their enrolment to guaranteed financial access. For instance, at FGD/Ayikuma 3 testimonies with coverage of 4.14% by insured male household heads, FGD/ Abiram- Manso 3 testimonies with

coverage of 3.91% by uninsured male household heads and FGD/Sota 2 testimonies with coverage of 2.12% by insured male household heads respectively. Thus, guaranteed financial access to healthcare significantly affects female household heads decision to enrol onto NHIS as compare to male.

Again, in Table 5.4, besides the FGD discussants, 5 KIIs comprised of 2 DSWOs, 3 NHIA staff and a DCDO also confirmed that guaranteed financial access to healthcare is a motivation for enrolment onto NHIS. A KIIs from Amansie West Health Directorate corroborated the propositions that households' heads enrol onto NHIS to deal with uncertainty with health expenditure and poverty, and therefore have guaranteed financial access to healthcare.

...Most of the time in Amansie West here, socioeconomic status (poverty) is the main reason for their enrolment to the scheme. This is because if they do not have the card and they cannot attend any health facility and they will ultimately need to pay... [Health Directorate worker, Amansie West District, Table AP1-3 in Appendix 1; KII]

This informed opinion on the factors that motivate household heads to enrol onto NHIS is consistent with the results of the 8 FGDs that poverty and uncertainty with health expenditures are the key constraints to guaranteed access to basic healthcare services. Therefore, to address these constraints, most household heads register with the NHIS to guarantee their financial access to healthcare at all times regardless of their vulnerability levels and the amount of medical expenditure involved.

5.3.2 Enrolment Experiences

Enrolment onto NHIS involves registration process which includes travelling cost to the registration centers and other registration challenges. The registration processes and constraints that household heads have to undergo constitute the enrolment experiences, more specifically, travelling distance, transportation costs, delay and slow registration process at NHIA.

5.3.2.1 Enrolment Decision by Male Household heads

The testimonies from FGDs revealed that males are vested with the power to take decisions regarding every facet of the household, including registering households' members with the NHIS. Results presented in the coding frequency in Table 5.1 indicates that majority of the discussants in the 6 FGDs out of the 8 FGDs conducted including a female discussant admitted that males take the NHIS enrolment decision in their respective communities. Also, the coding frequency in Table 5.2 shows that no discussant out of 6 participants in KIIs conducted admitted males take the NHIS enrolment decision.

Table 5.5 Enrolment Experiences: Enrolment Decision by Males quotes

Name	References	Coverage
Abiram-Manso - Uninsured Male FGD	2	2.77%
Ayikuma - Insured Male FGD	1	0.77%
Dawusaso Gyegyetroso - Insured Female FGD	2	3.61%
Odumse- Uninsured Female FGD	2	1.41%
Sota - Uninsured Male FGD	1	1.25%
Subinso - Edubiaso - Insured Male FGD	1	0.67%

Source: Qualitative Data, 2018.

The results in Table 5.5 also show some higher coverage percentages for FGDs with regards to enrolment decision by male household heads. For instance, Table 5.5 shows 2 testimonies with coverage of 3.61% by insured female household heads at FGD/Dawusaso -Gyegyetroso and 2

testimonies with coverage of 2.77% by insured female household heads at FGD/Abiram- Manso respectively.

In consequence, the results presented in Tables 5.1, 5.2 and 5.5 show that male household heads take the decision of NHIS enrolment on the behalf of the members of the household. This result is consistent with of Boamah (2015), Jehu-Appiah et al. (2011) and Sekyi (2009). These studies disclosed that gender positively influenced NHIS enrolment decisions at a very high significance level.

The testimonies in the 6 FGDs shows for instance an uninsured female household head discussant at Odumse supported the propositions.

It is the man. If he does not give the order, you cannot register. He is the head of the household... [Female participant, Uninsured, Odumse, Table AP1-4 in Appendix 1; FGD].

This implies that the man is acknowledged as the head of the household and he wields the power to take decisions regarding household enrolment onto NHIS. Therefore, if any household member or the wife is willing to register, the man as the head must approve of it before she can do so. Other female household heads discussants affirmed the authority of the man as the decision maker to the extent that they only follow his instructions.

...For me, it is the man. If he tells us (the family), to lay down our cocoa tools to go and register, we follow him... [Female Participant, Insured, Dawusaso-Gygyetreo, Table AP1-4 in Appendix 1; FGD].

These assertions are therefore confirmed in the results presented in Table 5.5 where female insured household heads at FGD/Dawusasu –Gygyetreso make the highest coverage of 3.61% with regards

to males taking decision NHIS enrolment. Similarly, the uninsured male household heads discussants in the results of the (6) FGDs confirms the views of the females' that men are the decision makers in the household. Males consider themselves decision-making power wielders because they are responsible for the health and other conditions of all household members. Therefore, it is a responsibility on them rather than a privilege.

It is the man, because we are the head of the household and we take care of the house [Male participant, Uninsured, Abiram-Manso, Table AP1-4 in Appendix 1; FGD]

...We have gone to bring the woman from her family so it is our sole responsibility to take care of them by directing them to register... [Male participant, Uninsured, Abiram-Manso, Table AP1-4 in Appendix 1; FGD].

These assertions also are consistent with many studies that analysed households' decision making on NHIS enrolment in rural Ghana (Boamah, 2015; Boateng & Awunyo-Vitor, 2013). In Ghana, many of the poorest households' population live in rural areas and the decision to enrol onto NHIS is largely taken by males, who are bestowed with the authority as the heads of households. Though majority of the discussants in the results of the 6 FGDs asserted that male household heads take decision with regards to enrolment onto NHIS, some male discussants argued that their decisions were taken in consultation with the wives. For instance, a male household head who is uninsured at FGD/Sota community supported this proposition.

In our setting, it is the male head of the household. The male or husband informs or explains to the wife on the importance of the insurance and the need to register... [Male participant, Uninsured, Sota; Table AP1-4 in Appendix 1; FGD].

This quote is an indication that though male household heads take the enrolment decision; they explain it to their wives before the decision is taken.

5.3.2.2 Enrolment Decision by Female Household heads

In most cases, decisions regarding the socio-economic conditions of children such as education, health, clothing and other essential needs are spearheaded by their mothers due to their closeness with the children. Female household heads specifically, the women are usually responsible for taking care of the children when they are sick. In providing this primary care to the children, they seek healthcare treatment for the children even before the fathers intervenes. The result from the coding frequency in Table 5.1 shows that about 90% of all the discussants in the 7 FGDs out of the 8 FGDs affirmed females actually take the decision to enrol household members, especially the children, onto NHIS. Also, the coding frequency in Table 5.2 shows that only 1 discussant out of 6 participants in KIIs conducted affirmed female household heads actually take the decision to enrol members of the household.

Table 5.6 Enrolment Experiences: Enrolment Decision by Females quotes

Name	References	Coverage
Ayikuma - Insured Male FGD	4	4.79%
Dawusaso Gyegyetroso - Insured Female FGD	2	2.55%
Dome Beposo- Uninsured Female FGD	2	3.69%
KII - Amansie West - MIS Health Insurance	1	7.07%
Mantetse- Insured Female FGD	1	1.49%
Odumse- Uninsured Female FGD	4	3.96%
Sota - Uninsured Male FGD	1	1.13%
Subinso - Edubiaso - Insured Male FGD	1	1.47%

Source: Qualitative Data, 2018.

The results in Table 5.6 show the two highest coverage percentages affirming females as the actual decision makers. For instance, Table 5.6 shows 4 testimonies with coverage of 3.96% by uninsured female household heads at FGD/Odumse and 4 testimonies with coverage of 4.79% by insured male household heads at FGD/Ayikuma, respectively. Again, the results from Table 5.6 shows a testimony with a coverage of 7.07% by KII /Amansie West NHIA confirmed that female household heads actually take the decision to enrol household members.

Thus, the results presented in Tables 5.1, 5.2 and 5.6 shows that female household heads take the decision to enrol household members onto NHIS in order to prevent unforeseeable consequences when they fall sick.

The testimonies from the 7 FGDs further shows arguments made by two (2) uninsured female household heads discussing defending why the decision is taken by them.

...It is mainly the women. This is because the children are always with the mother... [Female participant, insured, Dawusaso-Gyegyetroso, Table AP1-4 in Appendix 1; FGD].

...It is we the women, because, as we are with the children most of the time, we are restless when they take ill. It is unlike the men so we notify them on the urgent need for insurance to prevent any unforeseen circumstances... [Female participant, Uninsured, Dome-Beposo, Table AP1-4 in Appendix 1; FGD].

Therefore, though the man is the head of the household, the women sometimes take the bold initiative to enrol the children with or without the order of the man. The testimonies from the 7 FGDs also reveals that some female household heads take the decision to enrol themselves and the children when they realised that the man does not have the financial ability to pay for costs involve enrolment process. This means that female household heads who are economically

empowered usually take the decisions to enrol their children and other members of the household onto NHIS to contribute significantly to household expenditures. In effect, if a woman has the economic power to pay for the costs involved in the enrolment process, then she will take the decision on behalf of the man to secure the health of members of the household.

...Sometimes, the man may say there is no money so you cannot risk it when one day the child gets sick, hence, that's why I registered for the insurance...

[Female participant, Uninsured, Table AP1-4 in Appendix 1, Odumse; FGD]

This implies that the power of female household heads to take decision on enrolment if household members is inseparably-connected to their economic empowerment and financial contribution to household expenditures.

The testimonies from the (7) FGDs also shows that there are variations in perceptions about illness vulnerability between men and women. This however, is another equally important factor that contributes to female household heads taking decisions to enroll their children and other households' members onto the NHIS. Generally, society has the belief that men are more resilient to illnesses than women. This perception strongly leads to significant variations in health-seeking behaviours between males and females. For instance, insured female discussant argued that;

...It is we, the female parents that take the decision. As for the men, they do not have time. They (the men) always have the assertion that they don't normally get sick so they deem it less important... *[Female participant, Insured, Table*

AP1-4 in Appendix 1, Mantetse; FGD]

Again, the testimonies from the (7) FGDs also show that female household heads are greater health-seekers than males, especially when they are pregnant or any member of the household is pregnant. Therefore, they are more likely to take the decision to enrol onto the NHIS.

...It is mainly the women. For example, for pregnant women, because of the high cost of living, they prefer going to enrol due to the free birth that comes as a benefit to it. They also make sure their children are registered... [NHIA, Amansie West District, Table AP1-4 in Appendix 1; KII].

However, testimonies from the 7 FGDs shows that most of the female household heads discussants take the decision to enroll their children and other members of the household onto the NHIS by suggesting the choice to their husbands. For instance, uninsured male participant at Sota asserted

...Sometimes our wives suggest to us the need to enrol especially for the sake of the children... [Male participant, Uninsured, Sota, Table AP1-4 in Appendix 1; FGD]

...It is the women for instance, my wife who brought the idea that we should go and register... [Male participant, Insured, Subinso-Edubiaso, Table AP1-4 in Appendix 1; FGD]

In brief, female household heads take decision to enrol onto health insurance based on several factors, including, their positive health-seeking attitudes, economic empowerment and contribution to household expenditures, and their role as the primary care-takers of children and the entire family among others.

5.3.2.3 Registration Challenges

As part of the enrolment experiences, there are a myriad of challenges that adversely affect enrolment processes onto the NHIS. These challenges, in many cases, do not only discourage prospective subscribers from enrolling onto the scheme, but also causes high rates of attrition from the scheme among insured individuals. The results of the coding frequency in Table 5.1 shows at

least one discussant in all the 8 FGDs conducted affirmed that they faced registration challenges which strongly affected their enrolment decision onto the NHIS. Again, the coding frequency in Table 5.2 also shows that 3 discussants out of the 6 participants in the KIIs conducted affirmed they faced registration challenges. These assertions indicate that the scheme is embroiled in several challenges that are widely acknowledged.

Table 5.7 Registration Challenges quotes

Name	References	Coverage
Abiram- Manso - Uninsured Male FGD	1	3.04%
Ayikuma - Insured FGD	1	6.05%
Dawusaso Gyegyetroso - Insured Female FGD	1	5.41%
Dome Beposo- Uninsured Female FGD	1	5.21%
KII - Shai-Osudoku – DSWO	1	8.71%
KII - Shai-Osudoku - NHIS Officers	1	1.52%
KII - Shai-Osudoku – DCDO	1	9.18%
Mantetse- Insured Female FGD	2	4.32%
Odumse- Uninsured Female FGD	1	4.83%
Sota - Uninsured Male FGD	2	3.47%
Subinso - Edubiaso - Insured Male FGD	1	6.72%

Source: Qualitative Data, 2018.

The results in Table 5.7 also show higher coverage percentages affirming that household heads faced registration challenges. For instance, Table 5.7 shows a testimony with a coverage of 6.72% by insured male household head at FGD/Subinso- Edubiaso; a testimony with a coverage of 6.05% by insured male household head at FGD/Ayikuma; a testimony with a coverage of 5.41% coverage by insured female household head at FGD/Dawusaso- Gyegyetroso; and a testimony with a coverage of 3.04% by uninsured male household head at FGD/Abiram-Manso, respectively. Additionally, the results from Table 5.7 also shows a testimony with a coverage of 9.18% by

KII/Shai -Osuduku DCDO and a testimony with a coverage of 8.71% by KII/Shai-Osuduku DSWO respectively confirmed that households' members faced several registration challenges.

Thus, the results presented in Tables 5.1, 5.2 and 5.6 show that a wide range of challenges were personally shared, including slow registration process due to poor digital technology and inadequate registration centers, long distances to registration centres with accompanied high travel costs, bribery and corruption during registration, and long maturity period of the insurance card. This results is consistent with the findings of Alkenbrack (2011), Aryeetey et al. (2016), Boamah (2015), Kotoh and van der Geest (2016), Sekyi (2009). On the evidence brought to fore by Kotoh and van der Geest (2016), the NHIS is failing to achieve its primary objective of achieving equity in healthcare access as only 17.6% of poorest have been enrolled on to the scheme.

Again, the testimonies from the 8 FGDs show that due to spending long period at the registration centre because of long queues could be the reason why uninsured household heads are not enrolled onto the NHIS. According to an uninsured female participant;

...It is the long queue we have to be in it, but one who is only exempted is pregnant person. Sometimes, we have to leave here at 4am to NHIS office, and may return in the evening... [Female participant, uninsured, Odumse, Table AP1-4 in Appendix 1; FGD].

Therefore, if the time women need to undertake their household chores and other economic activities compete with the registration time, they are more likely to choose the latter over the former, hence refusing enrolment onto the scheme. Unlike the females, the men are considered the breadwinners of households and therefore, the opportunity costs of spending more time at the registration center is considered exorbitantly high leading to low level of NHIS enrolment rate among males. Table 5.7 shows a testimony with the highest coverage of 6.05% on registration

challenges by uninsured male household head at FGD/Ayikuma. Again, from the FGDs results, for example, a male uninsured household head lamented;

...One sacrifices one's work for registration because we have to join a long queue... and that is why most men do not go because the registration wastes time... [Male participant, Insured, Ayikuma, Table AP1-4 in Appendix 1; FGD].

This implies that to raise NHIS enrolment rate among males, registration process should be less cumbersome, fast, and less time-consuming. The testimonies from the 8 FGDs shows that besides slow registration process digital hiccups due to poor internet network, therefore making the process less smooth and less friendly.

...Sometimes it takes a long time to register. There are cases where it will take from morning to evening before you can register. The staff always complain of network issues causing the delay... [Female participant, Insured, Mantetse, Table AP1-4 in Appendix 1; FGD]

The testimonies from the 8 FGDs also indicates that long distances to registration centres with accompanied high travel costs is another key challenge that exerts enormous financial burden on household heads and therefore prevent most of them from enrolling onto the NHIS. Here are some narrations by a male and female household heads who are insured;

...The distance to the registration centres is also a problem. Some of us come from afar such as Ashaiman junction, Afiénya to Dodowa to register and this is a hindrance to us...Transportation cost alone could discourage someone coupled with registration cost... [Female participant, Insured, Mantetse, Table AP1-4 in Appendix 1; FGD].

...There are challenges with transportation cost. In the case where there is no money for transport cost, enrolment onto NHIS becomes very difficult. Sometimes too, you would have to pay “something small” to the officials before you are registered... [Male participant, insured, Ayikuma, Table AP1-4 in Appendix 1; FGD].

These narrations imply that besides other costs involved with enrolment process, transportation costs is over-burdening especially for large households. Many participants lamented as follows;

Unlike first, where you can register for your children, it is not so now. You have to board a vehicle with all your children so they can have their fingerprints taken for the registration and this is tedious especially considering the transportation cost... [Female participant, Insured, Dawusaso-Gyegyetros, Table AP1-4 in Appendix 1; FGD].

It is therefore to argue that the overall economic costs of enrolment onto the NHIS, comprising transportation costs and opportunity costs of abandoning work for at least a day will severely impair economically impoverished household heads from enrolling onto the scheme, thereby making health insurance in Ghana economically inaccessible to the poor and vulnerable.

However, the results of the 3 discussants in the KIIs present long distance to registration centres, poor internet connectivity causing slow registration and overwhelmed health insurance staff as the main factors that negatively affects NHIS enrolment rate in the country.

...some communities in the hinterlands really face serious challenges when they have to come to renew their insurance cards, because the distance from their communities to the main health centre is even more than what one benefits if

the person is enrolled on the health insurance scheme... [Social welfare officer, Shai-Osudoku District, Table AP1-4 in Appendix 1; KII].

This implies that the transportation cost is the main barrier to NHIS enrolment among household heads because of long distance to and from the registration centres which are located in the District capitals.

5.3.2.4 Ways to improve Health Insurance Enrolment

In response to the various challenges that strongly affect household heads enrolment onto the NHIS, a plethora of strategies were provided by FGDs and KIIs participants. In all the FGDs, measures to address the NHIS enrolment challenges like high transportation costs, slow registration process, and costs involved with enrolment process among others were suggested except one uninsured female household heads. The results in the coding frequency in Table 5.1 show that all the discussants in the (7) FGDs out of the (8) FGDs conducted confirmed strategies were provided to address the enrolment challenges. Also, the coding frequency in Table 5.2 also shows that 4 discussants out of the 6 participants in KIIs conducted confirmed strategies were provided to address the enrolment challenges.

Table 5.8 Ways to improve Enrolment quotes

Name	References	Coverage
Abiram- Manso - Uninsured Male FGD	1	1.30%
Ayikuma - Insured Male FGD	3	8.19%
Dawusaso Gyegyetroso - Insured Female FGD	1	4.31%
KII - Amansie West - MIS Health Insurance	1	2.35%
KII - Shai-Osudoku – DSWO	1	6.27%
KII - Shai-Osudoku - NHIA Officers	1	1.21%
KII - Shai-Osudoku – DCDO	2	15.91%
Mantetse- Insured Female FGD	1	1.89%
Odumse- Uninsured Female FGD	2	2.98%
Sota - Uninsured Male FGD	2	6.14%
Subinso - Edubiaso - Insured Male FGD	1	2.57%

Source: Qualitative Data, 2018.

Table 5.8 in the study also shows 3 testimonies with the highest coverage of 8.19% on ways to improve enrolment by insured male household heads at FGD/Ayikuma. Again, table 5.8 further shows another 2 testimonies with a coverage of 6.14% on ways to improve enrolment by uninsured male household heads at FGD/Sota.

Also, the results from Table 5.8 show 2 testimonies with a coverage of 15.91% by KII/Shai - Osudoku DCDO and a testimony with a coverage of 1.21% by KII/Shai-Osudoku NHIA officers respectively.

The results presented in tables 5.1, 5.2 and 5.8 respectively show that majority of the household heads discussants in the in the 7 FGDs and the 4 discussants of KIIs strongly agreed that the enrolment processes of the NHIS require profound changes and improvements as they offered avalanche of strategies to accomplish those changes. These strategies encompassed, among others, sensitization of the general public and subscribers on the costs and benefits package of the insurance scheme using mass media and other communication technologies, reduction of enrolment costs, increasing the number of health insurance registration offices, especially in the

remote communities, improving the quality of drugs and medical services given to subscribers, allowing proxy registration of children and the aged, and easing access to healthcare by insured persons at the health centers by expanding infrastructure. For example, participants pointed to easing registration challenges by providing adequate registration centres to enhance access and reduce costs;

...We wish they could allow us to register for the children with their photo instead of physically bringing them... [Female participant, insured, Dawusaso-Gyegyetroso, Table AP1-4 in Appendix 1; FGD].

This implies that instead of sending all the children to the registration centre for enrolment with its concomitant upward spiral effect on transportation costs, this woman thinks that photos of the children should be used for the registration.

Furthermore, with the challenges associated the biometric registration system⁵ adopted by NHIS most females' discussants who participated in all the 7 FGDs suggest for the reinstatement of the non-biometric system will increase enrolment among members of the household due to the ease it will bring on both registration costs and inconvenience.

Another uninsured male participant at FGD/Sota suggests that the registration centres should be decentralized from the District capital to the electoral area levels to enhance access and reduce transportation costs.

...The government can send information through the electoral area to better get to the people closer. People can go as far as Dodowa to get insured but if it's

⁵Biometric registration system requires that every single prospective subscriber must be physically present so that they can take finger prints of the person. This biometric registration does not only slow down the registration process due to incessant network hiccups, but contributes to swelling up the costs involved with enrolment process for households' members, particularly from the rural areas.

closer through the electoral area, the government will get more people to register. Hence, it should be moved from the districts to the electoral areas...

[Male participant, uninsured, Sota, Table AP1-4 in Appendix 1; FGD].

By implication, many household members are discouraged from enrolling onto the insurance scheme because of inadequate physical access to registration centres due to long distance and huge transportation costs. Some household heads discussants who participated in the 7 FGDs suggest for the effective decentralization of NHIS registration from the district level to the electoral areas will significantly reduce transaction costs of registration and thereby enhance enrolment levels among poorest households.

The results of the 7 FGDs also show some household heads discussants attributed low NHIS enrolment to unwarranted charges levied on insured persons who visit health centres. An uninsured female participant at Odumse lamented;

....We thought the health insurance was cost free but we end up paying monies; so the government can do something about the whole scheme. We will be very glad... [Female participant, uninsured, Odumse, Table AP1-4 in Appendix 1; FGD]

These female participants who are uninsured believe that hospital administrators charge NHIS subscribers unwarranted fees for medications and other medical fees, and perhaps that is why they are currently uninsured as at the time of data collection. Their suggestions imply a communication gap between prospective subscribers, the NHIA and the hospitals as to the full benefits package of the scheme. This communication gap between NHIA and the insured does not only cause high attrition rate from the scheme (non-renewal rate), but actually makes the scheme less attractive to

non-subscribers, hence causing a significant reduction in the NHIS enrolment rate. This male insured participant specifically suggested a measure to address this communication gap as follows;

...Messages that assure there is sufficiency and quality of drugs available for NHIS services. Various diseases and their corresponding medications should be made available through text messages. This will put fear in the health personnel... [Male participant, Insured, Ayikuma, Table AP1-4 in Appendix 1; FGD]

Although both female and male household heads discussants in the (7) FGDs actively proffered strategies to address the various registration challenges associated with enrolment, an insured male FGD in Ayikuma shows 3 testimonies with a coverage of 8.19% on ways to improve Enrolment. Also, the testimonies of the 4 discussants that participated in the KIIs confirmed that massive sensitization of the general public on the full benefits of the scheme is key to increasing enrolment.

*...Messages on the benefits of the scheme will make the people enrol...
[NHIS Officer, Amansie West District, Table AP1-4 in Appendix 1; KII].*

This suggestion concurred with the suggestions of most participants in all the 7 FGDs. Although providing sensitization and educational programmes will play an important role in influencing people to enrol onto the NHIS, sustainability of these programmes cannot be overemphasized. DSWO at Shai- Osudoku comments,

Yes, I think the communication messages should always be on-going just like we hammer on the HIV messages and other diseases so that it will always ring in their minds instead of once a while... [DSWO, Shai-Osudoku District, Table AP1-4 in Appendix 1; KII].

Sustainability of programmes is a general problem that affects development process in the country. In this case, the NHIA provides communication messages about the benefits of the scheme within a short period of time it causes distortion of information on social and peer education. Therefore, household heads discussants who participated in all the 7 FGDs suggest for the sustainability of the sensitization programmes to ensure that information is disseminated and fully understood by the target groups. In addition to strategies relating to information accessibility and dissemination, other measures to ease registration difficulties and make the overall scheme more friendly and attractive to prospective subscribers were also considered.

What I would suggest is that, if the person is coming from a long distant (community) such as Odumse, and they (health insurance registration officers) have even closed, they should try to register the person... [Community Development Officer, Shai-Osudoku District, Table AP1-4 in Appendix 1; KII].

This implies that registration process should be flexible enough to consider individual characteristics and locations so that those travel from long distances are given preferential treatment in terms of registration. A community development officer (DCDO) in Shai-Osudoku District, however, differed in opinion on the use of technology and other communication messages to disseminate information about the benefits of health insurance so that more people will get enroled. He argued that physical interactions through religious organizations and markets, among others are more effective ways of disseminating information to influence people to get enroled onto health insurance than mass media.

...Text message would not help because they do not read. Some are on other networks that send them messages frequently and they do not read them. The most effective way is getting the people and interacting with them face-to-face

on daily basis- church group meetings, social gatherings etc... [Community Development Officer, Shai-Osudoku District, Table AP1-4 in Appendix 1; KII].

These imply that beside the use of mass media and other communication technologies to disseminate information on the benefits of the NHIS to increase enrolment, other traditional modes of dissemination especially using the religious organizations, information vans, and traditional town criers, among others should not be relegated to the background. Also, consideration should be given to members of the households from distant communities during registration and that children and other aged individuals should be allowed to be registered using photos instead of carrying them to the registration centres. According to the participants, these increase the costs of registering the health insurance.

5.3.3 Enrolment expected Outcomes

Expected outcomes of any implemented decision are the long-term positive effects beneficiaries derive from their participation in the project or program. In this case, expected outcomes of NHIS enrolment are the expected benefits, including reduction in financial burden of illness and security against NHIS- covered illnesses, subscribers are expected to derive after enrolment.

5.3.3.1 Reduction in Financial burden of Illness

The primary objective of health insurance is to reduce the risks and uncertainty surrounding health expenditures. Therefore, without health insurance, household heads are predisposed to catastrophic expenditures and OOPHE that can be overburdening. The results from the coding frequency in Table 5.1 shows that majority of discussants 6 FGDs, both insured and uninsured, expect enrolment onto NHIS to reduce the financial burden of illness, both medical services and

costs of drugs. Also, the coding frequency in Table 5.2 shows that no discussant out of 6 participants in KIIs conducted expect enrolment onto NHIS to reduce the financial burden of illness.

Table 5.9 Expected Outcome: Reduced Financial Burden of Illness quotes

Name	References	Coverage
Abiram- Manso - Uninsured Male FGD	2	3.58%
Ayikuma - Insured FGD	4	3.35%
Dawusaso Gyegyetroso - Insured Female FGD	1	1.44%
Dome Beposo- Uninsured Female FGD	2	2.44%
Mantetse- Insured Female FGD	2	3.28%
Sota - Uninsured Male FGD	2	1.79%

Source: Qualitative Data, 2018.

Table 5.9 in the study also shows 4 testimonies with a coverage of 3.35% by male insured household heads at FGD/Ayikuma on financial benefits of NHIS enrolment. Again, Table 5.9 further shows another 2 testimonies with a coverage of 3.58% by uninsured male at FGD/Abiram-Manso on reduce the financial burden of illness.

The results presented in Tables 5.1, 5.2 and 5.9 respectively show that majority of the discussants in the in the 6 FGDs strongly expect enrolment onto NHIS to reduce the financial burden of illness. The testimonies from the 6 FGDs shows that insured participants generally affirmed that their enrolment onto NHIS actually reduced their health expenditures more significantly at the health centres.

...When I sent my mother for X-ray, her cost was low as compared to those without the health insurance who paid almost 400 cedis for the same x-ray...
[Female participant, Insured, Mantetse, Table AP1-5 in Appendix 1; FGD].

...Subscribing to the NHIS has reduced our risk of illness and indecision to pay clinic fees. Insurance has reduced our cost of healthcare when we visit the clinic. We pay very less for our treatment as government has taken a chunk of the cost. They take care of you fast if you have the health insurance card... [Female participant, Insured, Mantetse, Table AP1-5 in Appendix 1; FGD].

...If you have the card (enrol onto NHIS) under such instances, the cost of healthcare to be borne is less... [Male participant, Insured, Ayikuma, Table AP1-5 in Appendix 1; FGD]

These imply that members of the household who are on the NHIS are actually reaping the expected benefits of reduced health expenditures, thereby providing subscribers the opportunity to save their meager incomes to meet other household consumption expenditures.

Apart from insured participants, those who were not insured also affirmed the ability of the NHIS to cushion subscribers against catastrophic hospital bills by narrating the experiences of their friends and relatives who are beneficiaries of the scheme.

...For me, when my wife was taken ill and I sent her to the hospital but because of her insurance card, we paid a little amount and she was taken care of very early... [Male participant, Uninsured, Abiram_manso, Table AP1-5 in Appendix 1; FGD]

...The benefits also extend to the reduction in medical cost and drugs available to you freely as a subscriber... [Male participant, Uninsured, Sota, Table AP1-5 in Appendix 1; FGD]

Therefore, there is general consensus among the participants in the 6 FGDs that NHIS enrolment reduces financial burden of illness. However, the financial expected benefits of NHIS enrolment were not affirmed by any of the KIIs interviewed.

5.3.3.2 Protection against NHIS-covered Illnesses

One of the motivations for enrolling onto NHIS is illness vulnerability, and on that basis, it is expected that subscribers will wish to protect themselves against illnesses especially those covered by the NHIS. Health insurance provides free access to healthcare for some selected common and transient illnesses that are dominant among the population. Therefore, by subscribing to the scheme, a household member is expected to be secured against all illness vulnerability.

However, the results from the coding frequency in Table 5.1 shows 50% of discussants that participated in the 8 FGDs conducted did not expect security against NHIS –covered illnesses as a result of enrolment onto health insurance. The coding frequency in Table 5.2 on the other hand, shows that no discussant out of 6 participants in KIIs conducted expect enrolment onto NHIS to protect against NHIS –covered illnesses.

Table 5.10 Expected Outcomes: Secured against NHIS Insured Illnesses quotes

Name	References	Coverage
Abiram- Manso - Uninsured Male FGD	1	1.40%
Ayikuma - Insured FGD	1	0.78%
Mantetse- Insured Female FGD	2	2.14%
Sota - Uninsured Male FGD	2	2.15%

Source: Qualitative Data, 2018.

Table 5.10 in the study also shows a female insured FGD in Mantetse and uninsured male FGD provided the highest number of testimonies (2 each) regarding this expected outcome of NHIS enrolment, with coverage of 2.14% and 2.15% respectively.

The results presented in Tables 5.1, 5.2 and 5.10 respectively show that security against NHIS-covered illness is a less popular expectation from NHIS enrolment compared with reduction in financial burden of illness in the country.

Again, the results of the Table 5.10 show that, of the discussants [(4) FGDs] that formed the expectation of having security against illnesses, only one is a female FGD. The implication is that expected security against NHIS-covered illnesses is more dominant among men than women. In the case of the female FGD that had that expectation, the participants' expectations transcended security per say to include quality of healthcare and preferential treatment at the healthcare facility. In the testimonies from the 4 FGDs, some participants, regardless of the gender and insurance status, expressed strong expectations that participation in the NHIS membership gives them healthcare security against unexpected illnesses. An insured female household head at Mantetse participant comments,

...First is that, I do not join a queue when I visit the hospital because I am insured. Secondly, I have hope of quicker recovery because I am giving proper care. Lastly, I received my treatment early... [Female participant, Insured, Mantetse, Table AP1-5 in Appendix 1; FGD].

These expectations imply that most women subscribers of NHIS have the perception that the scheme elevates them above non-subscribers in terms of access to quality of healthcare and privileges at the care centres. This has the potential to increase dissatisfaction levels among female NHIS subscribers when these expected outcomes are not met and delivered after enrolment.

Comparatively, male participants had carefully measured expectations of obtaining security against unforeseeable occurrences of illness.

...For me, I know the insurance covers hernia so that is why I wanted to register to reduce my fears of illness... [Male participant, Uninsured, Abiram-Manso, Table AP1-5 in Appendix 1; FGD]

...In the event where there may be unexpected occurrences (of illnesses) enrolment onto the insurance will save the family... [Male participant, Insured, Ayikuma, Table AP1-5 in Appendix 1; FGD]

...The benefits are numerous. In accidents and severe illness for example, you will be attended to when they realize you are a cardholder. Anything can happen so I have to secure yourself... [Male participant, Uninsured, Sota, Table AP1-5 in Appendix 1; FGD]

Therefore, apart from the expected benefit of reducing financial burden of illness, majority of male participants, both insured and uninsured, equally expect to have security against NHIS-covered illnesses, which are normally popular among the population.

5.4 Comparing existing Theories to explanation of NHIS Enrolment from the study.

All three theories (EUT, SDUT and HBM) and explanation of NHIS enrollment from the study indicate three different factors that motivate household heads to enroll onto the NHIS. The pre-condition from the explanation of NHIS enrollment in the study asserts that household heads enrol onto NHIS when they perceive that they are not only vulnerable to illness conditions, but they are at greater risks of being financially burdened by illnesses. The EUT indicates similarly that *risks and uncertainty* are most related to the financial risk aversion of poor households and perception

of illness vulnerability. The SDUT reveals that a household head decision to enroll is based on their *nature of state*, such as socio-economic and health status (Muermann & Kremslehner, 2014; Zank & Wakker, 1999). This is similar to the financial burdened by illnesses explanation of NHIS enrollment from the study. The HBM explains NHIS enrollment from a more diverse perspective, which is more compatible to the explanation of NHIS enrollment from the study using its various theoretical constructs. One of such constructs that explains individual's decision to enroll is based on susceptibility to illness conditions which is consistent with the vulnerability of illness conditions explanation of NHIS enrollment from the study. Another construct of HBM which is consistent with the reduction of financial burdened by illnesses explanation of NHIS enrolment is perceived benefits.

Enrollment experiences from the explanation of NHIS enrollment from the study reveals the male dominance on enrollment decision making, enrollment challenges, and ways to improve enrolment which are similar to some of the HBM constructs. Perceived benefits under HBM is similar to the explanation of NHIS enrollment as it provides understanding to take preventive measures against risks and illnesses vulnerabilities. The enrollment challenges reported by the study's respondents is captured as perceived barriers to the health seeking behavior. Self-efficacy which is one of the constructs examines similar concerns about the decision making of whether or not an individual is able to initiate and sustain the health behaviour amidst environmental challenges. This was enormously agreed upon by the explanation of NHIS enrollment from the study where nearly double the number of the female decisions were made by women to enroll because of pregnancy and maternal health expenses sited. The EUT and SDUT, which are typical decision making theory, are silent on enrolment experience beyond decision to enrol onto NHIS.

Expected outcomes of enrolment were either insurance against the risk and uncertainty associated with the EUT or socio-economic and health status associated with SDUT. Perceived benefits under the HBM addresses similar expectations of being secured against NHIS insured illnesses and expecting to enjoy perceived benefits of being insured against financial cost of treatment in the absence of insurance.

5.5 Applicable Theory that explains NHIS Enrolment decisions among households

Preconditions from the explanation of NHIS enrollment

In both Figure API-6 and API-7 in Appendix 1 which represent EUT and SDUT on preconditions of enrollment, some of the responses of the FGDs and KIIs were outside the model. But in case of Figure API-8 in Appendix 1 which represents HBM on preconditions of enrollment, all the responses were within the model.

Enrollment Experience from the explanation of NHIS enrollment

In Figure API-9 in Appendix 1 which represents EUT on enrollment experience, some of the responses of the FGDs and KIIs were outside the model. Nonetheless, in the case of Figure API-10 in Appendix 1 which represents HBM on enrollment experience, the responses were within the model.

Expected outcomes from the explanation of NHIS enrollment

In Figure API-11 in Appendix 1 and API-12 in Appendix 1 which represents EUT and SDUT respectively on expected outcomes, some of the responses of the FGDs and KIIs were outside the model. However, in Figure API-13 in Appendix 1 which represents HBM, all the responses were within the model.

From the comparisons between the three theories, the HBM is the most comparable framework to understand why poorest households enrol onto NHIS in Ghana because the decision to enrol onto NHIS in the country is not limited only to the factors that directly motivate enrolment as the focus of the decision-making theories. For instance, the self-efficacy construct in the HBM addresses enrolment challenges that demotivate poorest households from enrolling onto the NHIS after assessing their ability to be able to complete the enrolment process.

However, in Ghana decision-making theories are not enough to explain why the poorest households enrol; there are complex individual health burdens, shared experiences and undesirable enrolment challenges that determine enrolment onto NHIS.

CHAPTER SIX
RESULTS ON CONSUMPTION BETWEEN THE INSURED AND
UNINSURED, HEALTHCARE USE AND OOPHE AMONG THE
POOREST HOUSEHOLDS

CHAPTER SIX

6.0 ANALYSIS AND DISCUSSION

6.1 Introduction

This chapter presents and discusses the results of the study in accordance with the objectives stated in chapter one. The chapter is made up of two sections: first of all, descriptive statistics of insured and uninsured household heads as well as the descriptive statistics of selected variables are captured in the first section. The second section presents the results of the Propensity Score Matching (PSM) impact estimations and findings from the various matching algorithms.

The disaggregated summary statistics of the variables for insured and uninsured household heads used in this study are presented in Tables 6.1 and 6.2 respectively.

6.2 Objectives

Ensuing from the chapter one discussion, the focus of this chapter was to analyse the effect of NHIS membership on consumption, healthcare use and OOPHE among the poorest households. Specifically, this chapter seeks to:

- (i) compare the consumption between the insured and uninsured households.
- (ii) analyse the effects of NHIS membership on healthcare use among the poorest households.
- (iii) analyse the effects of NHIS membership on out-of- pocket healthcare expenditure (OOPHE) among the poorest households

6.3 Descriptive statistics of insured and uninsured households

The data was obtained from five hundred and forty-seven (547) household heads who were LEAP beneficiaries mainly in Shai-Osudoku and Amansie West Districts (see Table AP2-1 in Appendix 2). The response rate for the survey was 90.41%. A total of six hundred and five (605) questionnaires were distributed but 547 of these questionnaires were retrieved.

The study sought to find the proportion of households who had enrolled onto NHIS. This enquiry was necessary because the prime objective of the NHIA is to provide equitable access to, and financial coverage for basic healthcare services to all citizens, especially the poor and vulnerable. Table AP2-1 in Appendix 2 indicates that, Shai Osudoku District has approximately 208 insured and 48 uninsured respectively whereas Amansie West District has 266 insured and 25 uninsured respectively. Of the total of 474 insured respondents, 51.9% of them are enrolled by themselves while the others are also enrolled through the LEAP programme. See Figure AF2-1 in Appendix 2.

Table 6.1 Household Heads Coverage by NHIS

NHIS Membership	Shai- Osudoku District	Amansie West District
	%	%
Insured	81.25	91.41
Uninsured	18.75	8.59
	100.00	100.00

Source: Survey Data, 2018

As shown in table 6.1, approximately 81.25% of the 256 respondents from Shai Osudoku District have subscribed to NHIS and the remaining 18.75% have not as subscribed. On the other hand, from Amansie West District 91.41% have subscribed to NHIS while 8.59% have not subscribed to the scheme.

6.4 Descriptive Statistics of selected variables

The decision to enroll onto NHIS may be influenced by several factors which may be relative to the household head. This pool of influencing factors is considered as the covariates in this study. NHIS membership is a choice, and it is very likely that different individuals will make different enrolment choices. The analysis then considers the exploration of differences between the insured and uninsured household heads in terms of characteristics (covariates) that are peculiar to these independent groups. These characteristics thread beyond potential covariates to be possibly related to the outcome variables under study. The outcomes variables of which are consumption expenditure, health care use and OOPHE. These covariates in another useful way feeds us with information necessary for constructing balanced samples of treatment and control observations.

6.4.1 Covariates: descriptive statistics

From Table 6.2, the average age above 65 years for the uninsured and insured in the sample is approximately 19 and 202 respectively whereas that of age 18-65 years for the uninsured and insured household heads in the sample is approximately 54 and 272 respectively. On average, 45 of the uninsured and 358 of the insured are not in marriage. On the other hand, 28 of the uninsured and 116 of the insured are in marriage. In terms of educational attainment, 47 of the uninsured and 282 of the insured have no education, 16 of the uninsured and 63 of the insured have primary education as their highest level of education. The results also show that 13.29 of the uninsured and 41 of the insured have JSS/JHS education as their highest level of educational attainment while 3 of the uninsured and 88 of the insured respondents have Middle school education. In terms of occupation, 34 of the uninsured and 162 of the insured are unemployed whereas 30 of the uninsured and 228 of the insured respondents are into farming/fishing. The analysis on occupation

further indicated that 8 of the uninsured and 56 of the insured are into trade/business whereas 1 of the uninsured and 28 of the insured respondents are into artisan.

Table 6.2 Descriptive Summary Statistics of Uninsured and Insured Household heads

Variable name	Combined N=547		Uninsured N=73		Insured N=474		<u>Differences</u>		T-test
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	P-value
Household consumption expenditure	1022.84	46.29	744.24	129.37	1065.74	49.32	-321.51	135.54	0.018
Number of hospital consult	2.2	0.04	1.7	0.1	2.3	0.04	-0.7	0.12	0.000
Total OOPHE	181.00	9.98	104.53	21.15	192.77	10.96	-88.24	29.14	0.003
	Freq.	%	Freq.	%	Freq.	%	Freq.	%	Chi2-test P-value
Perceived Health Status									
<i>Poor</i>	264	48.3	36	49.3	228	48.1	-192.0	1.2	0.847
<i>Good</i>	283	51.7	37	50.7	246	51.9	-209.0	-1.2	
Marital Status									
<i>Not in marriage</i>	403	73.7	45	61.6	358	75.5	-313.0	-13.9	0.012
<i>In marriage</i>	144	26.3	28	38.4	116	24.5	-88.0	13.9	
Literacy Status									
<i>Not literate</i>	416	76.1	61	83.6	355	74.9	-294.0	8.7	0.106
<i>Literate</i>	131	24.0	12	16.4	119	25.1	-107.0	-8.7	
Education Level									
<i>No education</i>	329	60.2	47	64.4	282	59.5	-235.0	4.9	0.009
<i>Primary</i>	79	14.4	16	21.9	63	13.3	-47.0	8.6	
<i>JSS/JHS</i>	48	8.8	13.29	9.6	41	8.7	-27.7	0.9	
<i>Middle school</i>	91	16.6	3	4.1	88	18.6	-85.0	-14.5	
Occupation									
<i>Unemployed</i>	196	35.8	34	46.6	162	34.2	-128.0	12.4	0.118
<i>Farming/Fishing</i>	258	47.2	30	41.1	228	48.1	-198.0	-7.0	
<i>Trader/Business</i>	64	11.7	8	11.0	56	11.8	-48.0	-0.9	
<i>Artisan</i>	29	5.3	1	1.4	28	5.9	-27.0	-4.5	
Disability Status									
<i>No disability</i>	336	61.4	50	68.5	286	60.3	-236.0	8.1	0.183
<i>Disability</i>	211	38.6	23	31.5	188	39.7	-165.0	-8.2	
Religion									
<i>Other religion</i>	38	7.0	4	5.5	34	7.2	-30.0	-1.7	0.596
<i>Christian</i>	509	93.1	69	94.5	440	92.8	-371.0	1.7	

Variable name	Combined N=547		Uninsured N=73		Insured N=474		<u>Differences</u>		T-test P-value
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.	
Age									
<i>Above 65 years</i>	221	40.4	19	26.0	202	42.6	-183.0	-16.6	0.007
<i>18-65 years</i>	326	59.6	54	74.0	272	57.4	-218.0	16.6	
Chronic Illness Status									
<i>No chronic illness</i>	358	65.5	53	72.6	305	64.4	-252.0	8.3	0.167
<i>Chronic illness</i>	189	34.6	20	27.4	169	35.7	-149.0	-8.3	
Sex									
<i>Female</i>	439	80.3	56	76.7	383	80.8	-327.0	-4.1	0.414
<i>Male</i>	108	19.7	17	23.3	91	19.2	-74.0	4.1	
Hospital Consultation Status									
<i>No consultation</i>	116	21.2	35	48.0	81	17.1	-46.0	30.9	0.000
<i>Consultation</i>	431	78.8	38	52.1	393	82.9	-355.0	-30.9	

Source: Author's survey, 2018

In table 6.2, there is no statistically significant difference between uninsured and insured in relation to perceived health status, literacy status, occupation, disability status, religion, chronic illness status and sex among the insured and uninsured. On the other hand, significant differences exist between the insured and uninsured in relation to marital status, educational level, age and health care facility consultation status. This may be significant in determining a household head decision to enrol onto NHIS.

6.4.2 Outcomes: descriptive statistics

The study distinguished three sets of relevant health outcomes. These include (i) consumption expenditure, (ii) number of hospital consult and (ii) OOPHE. There are also statistical differences between uninsured and insured with regards to the outcome variables in the Table 6.2.

In the table of descriptive (see Table 6.2), we realised that the average consumption expenditure of both the insured and uninsured is approximately GH¢ 1,022.84 with a standard deviation (standard error) of GH¢ 46.29. The analysis further gave results on consumption expenditure in the two groups of interest. On average, the consumption expenditure of the insured is approximately GH¢ 1065.74 with a standard deviation of GH¢ 49.32 whereas that of the uninsured is approximately GH¢ 744.24 with a standard deviation of GH¢ 129.37. Thus, a mean household consumptions expenditure difference of GH¢ 321.55 is realized between the groups under consideration. This indicates that the insured spend more money (about GH¢ 321.55) on consumption as compared to the uninsured and this difference is statistically significant at the 5% level of significance. This significant difference may be attributed to the relief that comes with valid NHIS membership in terms of health care expenditure. Since this study drew its respondents from LEAP households, who generally have similar characteristics and differ primarily by their

enrollment onto the NHIS, it can be inferred that insured have an increase in consumption because they saved from health care expenditure since the insurance covered part of their medical bills. This freed up money to be channeled into food and other expenditure. This however, may not be justifiable by the data since total OOPHE made by the uninsured is about GH¢ 104 on average which is less than that of the insured which is about GH¢ 193.

There exist also significance differences in the health care use (number of hospital consultations) and total OOPHE made upon consultation to a health care facility among the insured and uninsured (see Table 6.2). Thus, the insured tend to have higher health care facility consultations than the uninsured therefore leading to a higher healthcare use amongst the insured than the uninsured. This fact is being cemented by the results on hospital consultations as the insured have a significantly higher consultation than the uninsured. On average, the number of hospital visits of the uninsured is about 1.7 visits with a standard deviation of 0.1 whereas that of the insured is about 2.3 visits with a standard deviation of 0.04. This concludes that the insured have an increase in hospital visits by 0.6 visits. The study also reveals in the Table 6.2 of descriptive statistics that a small number of the uninsured (37) perceived that their health status is good as compared to the insured of whom a large number (246) perceived that their health status is good, and this is attributable to the increased health care use among the insured.

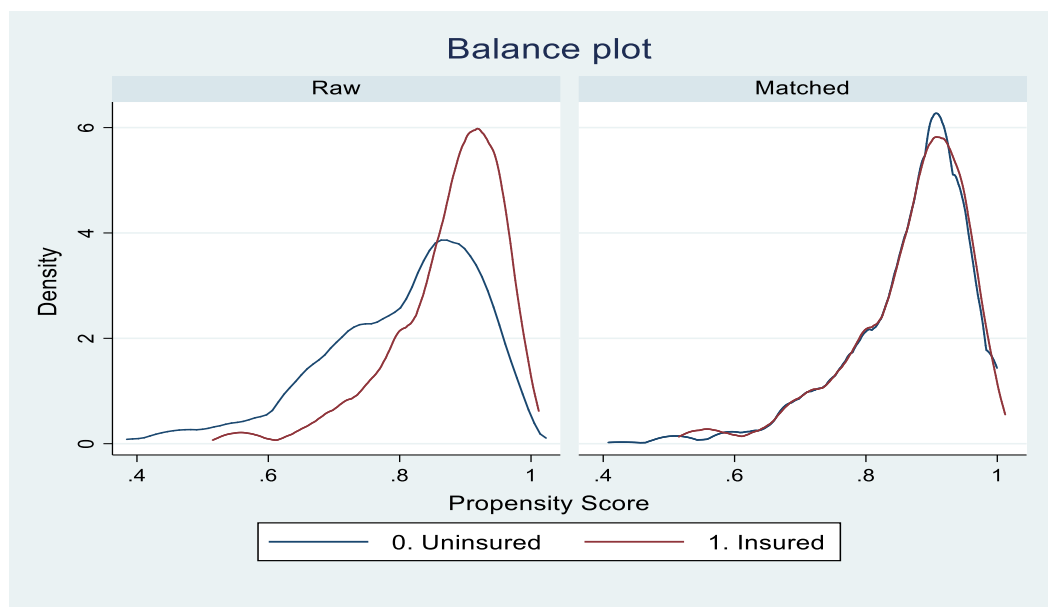
The summary statistics of uninsured and insured presented in the Table 6.2 suggest that differences exist between the two groups of interest based on the (selective) explanatory and outcome variables.

The significant characteristics in the covariates descriptive turn out to be significant and essential influencing factors in determining if an individual is treated or controlled (where the treated are the insured and the controlled are the uninsured). We then depend on these observable

characteristics to serve as the fundamental channel to constructing balanced samples for the treatment and control groups. As indicated in chapter four (4) of the study, there are some assumptions that must be met in order to estimate the treatment effect. One of such assumption is the balancing assumption which says that all observed household characteristics must be balanced between the treatment and control in the matched sample. The balance between the treatment and control groups is achieved in this study as shown in the in Figure 6.1

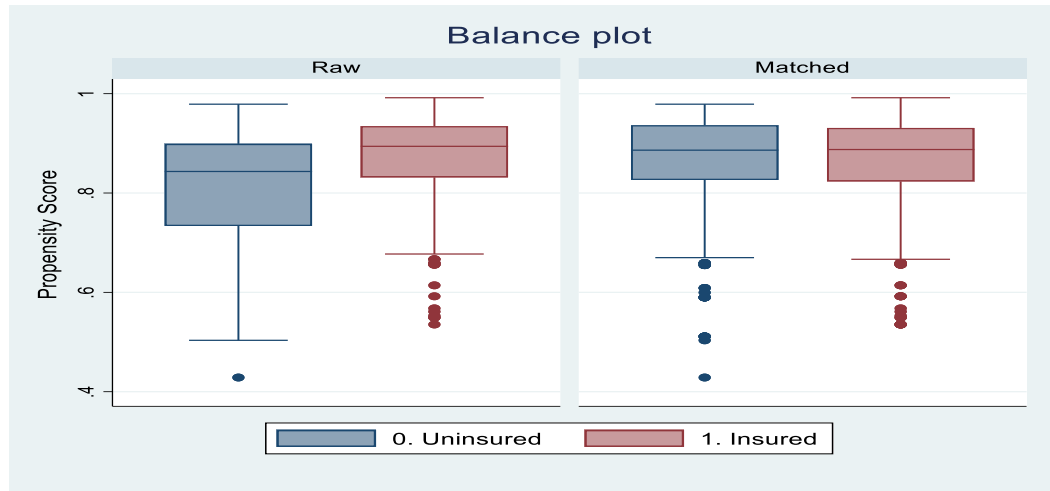
In order to satisfy the balance assumption and ensure that the observed household characteristics between the control (uninsured) and treated (insured) are balanced, the study estimated the propensity scores by employing a probit regression model (see Table AP2-2 in Appendix 2). The study followed (Leuven & Sianesi, 2008) to estimate the treatment effect.

Figure 6.1 and 6.2 shows the distribution of propensity score for the matched sample. The graph indicates that the covariates of the control and treated are balanced after matching.



Source: Author's Estimation

Figure 6.1 Line graph showing Propensity Score for the matched sample



Source: Author's Estimation

Figure 6.2 Box plots showing Propensity Score of uninsured and insured sample

In the matching diagrams Figure 6.1 and Figure 6.2, we realised that, before matching the treatment and control groups barely looked alike based on the pre-existing characteristics. The control group (uninsured) looks a lot more like the treatment group (insured) conditional on the covariates after the matching was done. Since we evaluate the matching to be a good one, we go ahead to evaluate the effectiveness of the interventional program (NHIS insured) on the targeted outcomes as: consumption expenditure, health care use, and OOPHE.

Using the matched data for the outcome analysis, the following results conditional on the confounders are obtained using various techniques for matching: Nearest Neighbour Matching, Inverse-Probability Weighting and Regression Adjustment.

6.5 Test for Matching Quality

Table 6.3 of the study results presents the indices of the matching quality. The outcome indicates a significant decrease in the absolute bias of the outcome variables, consumption expenditure, health care use and total OOPHE. Here, the decline in the mean absolute standardized bias between matched and unmatched samples is used to determine the balancing powers of the estimation. From table 6.3, the mean bias before matching was 23.6 while mean bias after matching is 23.8 for the consumption expenditure outcome. For the health care use mean bias before and after matching were 27.1 and 27.6 respectively whereas for the total OOPHE mean bias before and after matching were 24.7 and 22.4 respectively. It can be observed that after matching, the mean bias in the covariates is 71%, 60% and 80% level of bias for consumption expenditure, health care use and total OOPHE respectively. Thus, the covariates were significantly balanced by employing the propensity score matching approach.

Table 6.3 Indices of the Matching Quality

Variable	Pseudo R2 (Unmatched)	Pseudo R2 (Matched)	Mean Bias (Unmatched)	Mean Bias (Matched)	Bias Reduced
Household consumption expenditure	0.125 (0.000)	0.121 (0.000)	23.6	23.8	71
Number of hospital consultations	0.165 (0.000)	0.204 (0.000)	27.1	27.6	60
Total OOPHE	0.121 (0.000)	0.119 (0.000)	24.7	22.4	80

Note: P-values in parenthesis

Table 6.3 of the study results also presents the pseudo-R² values before and after matching with their p-values in the parenthesis. As indicated in the second and third columns, the pseudo R² values after matching is low and the diagnostic statistics is not significantly different from zero. The pseudo-R² values before and after matching for consumption expenditure is 0.125 and 0.121 respectively. Again, the pseudo R² values before and after matching for health care use is 0.165 and 0.204 respectively whereas the pseudo-R² values before and after matching for total OOPHE is 0.121 and 0.119 respectively with their p-values in parenthesis. This implies that there exist no significant differences between uninsured and insured after matching. The p-value for all the outcome variables before and after matching are highly significant. This implies that, there is no systematic variance in the distribution of covariates between uninsured and insured. Thus, the estimated model performs well for the intended matching exercise. This is sufficient in balancing the covariates between uninsured and insured samples.

The study also assesses the matching quality by performing post matching balancing test in table 6.4, which presents unmatched and matched sample of both treated and control group. From Table 6.4 household size, sex, marital status, occupation, chronic illness, disability and travel cost are the most important drivers of household consumption expenditure, health care use and OOPHE as they all significant at 1% level (p-value = 0.00) after matching, indicating that there is significant difference between the household size, sex, marital status, occupation, chronic illness, disability and travel cost of the treatment and control household heads. Age is not significant (p-value = 0.009), indicating that there is no difference between the control and treatment group in terms of Age of the matched sample. Similarly, education is not significant (p-value = 0.804), meaning that there is no difference between the control and treatment group in terms of education of the matched sample. Also, perceived health status and literacy of the uninsured and insured

group were not statistically significant after matching. Thus, there are no differences between the control and treatment group after matching. Since these covariates are balanced, any differences in household consumption expenditure, health care use and OOPHE cannot be attributed to differences in pretreatment characteristics across the two groups.

Table 6.4: Test for Matching Quality

Variable	<u>Unmatched</u>				<u>Matched</u>			
	Treated	Control	Difference	Prob> t	Treated	Control	Difference	Prob> t
	Mean	Mean			Mean	Mean		
Household size	4.76	5.22	-0.46	0.214	4.76	3.71	1.05	0.000
Sex	0.19	0.23	-0.04	0.415	0.19	0.31	-0.12	0.000
Marital status	0.24	0.38	-0.14	0.012	0.24	0.24	0.00	0.000
Age	0.57	0.74	-0.17	0.007	0.57	0.49	0.08	0.009
Education	0.86	0.53	0.33	0.023	0.86	0.88	-0.02	0.804
Occupation	0.89	0.67	0.22	0.030	0.89	0.57	0.32	0.000
Chronic illness	0.36	0.27	0.09	0.168	0.36	0.47	-0.11	0.000
Perceived health status	0.52	0.51	0.01	0.847	0.52	0.48	0.04	0.243
Literacy	0.25	0.16	0.09	0.107	0.25	0.28	-0.03	0.241
Disability	0.40	0.32	0.08	0.183	0.40	0.55	-0.15	0.000
Travel cost	16.64	9.41	7.23	0.001	16.64	6.92	9.72	0.000

Table 6.5 Distribution of marched observations

Insurance Status	Nearest Neighbour Matching			Kernel Matching		
	Unmatched	Matched	Total	Unmatched	Matched	Total
Uninsured	1	72	73	0	73	73
Insured	37	437	474	37	437	474
Total	38	509	547	37	510	547

Source: Author's survey, 2018

Table 6.5 shows the distribution of marched observations. The table 6.5 indicates that after **Nearest Neighbour Matching** algorithm was performed, the total matched observations is 509, with uninsured matched 72 and insured matched 437 respectively. On the other hand, table 6.6 also indicates that after **Kernel Matching** algorithm was performed the total matched observations is 510, with uninsured matched 73 and insured matched 437 respectively.

6.6 Treatment Effects

The estimation results and discussion for this study are the direct outcome of both Nearest Neighbour Matching and Kernel Matching algorithms.

6.6.1 Treatment Effect of NHIS coverage on Consumption Expenditure

The results of the treatment effects, (ATT) for NHIS participation, computed by the Kernel Matching algorithm for household consumption expenditure as an outcome variable is shown in Table 6.6. From the matching results reported in Table 6.6 after the Kernel matching estimation shows a statistical significance of ATT effect of GHC 263.43 at 10 % (t-statistics = 1.62), suggesting that participation in NHIS results in an increase in household consumption expenditure by approximately GHC 263.43. Similarly, the results of the nearest neighbour matching algorithm

in Table AP2-3 in Appendix 2 also shows an increase in household consumption expenditure by approximately GH¢ 284.89 which was around GH¢ 321.51 before matching. This difference is statistically significance at 5 % (1.98).

From the ATT results, participating in NHIS has increased household consumption expenditure. Generally, it assumes that health insurance increases consumption expenditure because the insured deplete additional expenses from health services to make feeding easier. The results of an increase in consumption expenditure indicates that the insured household heads consume more. These findings generally are consistent with the literature which reveals that with NHIS participation, household heads are more likely to improve their household consumption (Giedion et al., 2015; Levine, 2008; Wagstaff & Pradhan, 2005). These authors witnessed vast significant effect of insurance coverage on household consumption expenditure which has helped insured to smoothening their consumption level. Though, Levine (2008) could not explicitly explain the consumption in this context, he established that under insurance feeding by the insured are made easier because of depletion of additional expenses from health services. Again, the effect gained from health insurance on consumption expenditure seems to be much more than that in Burkina Faso, where health insurance effect becomes greater in times of economic crisis (Parmar et al., 2011, quoted in Giedion et al., 2015).

Table 6.6 Treatment Effect on Consumption (based on Kernel Matching)

Variable	Sample	Treated	Controls	Difference	Std. Err.	T-stat
	Unmatched	1065.74	744.24	321.51***	135.54	2.37
Household consumption expenditure	ATT	1072.00	808.57	263.43*	162.18	1.62

*Note: ***, **, and * denote statistical level of significance at the 1%, 5% and 10% levels respectively*

Source: Author's Estimation

6.6.2 Treatment Effect on NHIS membership on Health care use

The results of the treatment effects, (ATT) for NHIS participation, computed the Kernel matching estimation results as presented in Table 6.7 shows a statistical significance of ATT effect of 0.74 visits (t-statistics = 5.73, p-value<0.001). This implies that, participation in NHIS results in an increase in hospital visits by 0.74 visits. Comparatively, the results of the nearest-neighbor matching shown in Table AP2-4 in Appendix 2 reported that participation in NHIS increased significantly by about 0.74 visits at 1% (t = 3.87).

From the ATT results, participating in NHIS has a positive and significant effect on hospital visits. This indicates that participating in NHIS by household heads increases their hospital visits significantly and this may be due to the access to medical care when sick and NHIS package.

These findings are generally consistent with the growing literature on health insurance which discloses that with NHIS participation, household heads are more likely to use medical services (Alkenbrack, 2011; Aggarwal, 2010; Gouda et. Al., 2016; Trujillo et al., 2005; Wagstaff, 2007; Wang et al., 2017). These studies have reported evidentially that insurance coverage for poor household heads increases health care use. Specifically, Alkenbrack (2011) found that there is a positive effect of CBHI on health utilisation. Her reported finding indicates that health insurance increases healthcare use among the beneficiaries (Alkenbrack, 2011). Trujillo et al. (2005) revealed that insurance coverage greatly increased medical care utilization among the country's poor and uninsured. In results of the “*Impact Evaluation of India’s ‘Yeshasvini’ Community-Based Health Insurance Programme*”, Aggarwal (2010) also found that members of the household subscribed to health insurance had a significantly higher number of outpatient health care visits as well as surgeries, compared with those who were part of uninsured cooperatives.

Nonetheless, in trying to bring out evidence of their stance, Ali et al. (2017) found that geographical location to the health facilities affect health care use. These disparities do not end with settlement location (Boamah, 2015; Wagstaff et al., 2015) but also reflect in the usage of health facilities among children and adults. This was evidenced in the study of Wagstaff and Pradhan (2005).

Table 6.7 Treatment Effect on Healthcare use (based on Kernel Matching)

Variable	Sample	Treated	Controls	Difference	Std. Err.	T-stat
	Unmatched	2.31	1.66	0.65***	0.12	5.42
Number of hospital consultations	ATT	2.31	1.57	0.74***	0.13	5.73

*Note: ***, **, and * denote statistical level of significance at the 1%, 5% and 10% levels respectively*

Source: Author's Estimation

6.6.3 Treatment Effect of NHIS membership on Total OOPHE

The results of the treatment effects, (ATT) for NHIS participation, computed by the Kernel matching algorithm in Table 6.8 produced a significant result and shows a reduction of OOPHE by about GH¢ 79.77 at 1% ($t = 2.90$), suggesting that participation in NHIS by household heads results in reduction of OOPHE by about GH¢ 79.77. The nearest neighbour matching results reported in Table AP2-5 in Appendix 2 also shows that, after matching participation in NHIS results in reduction of OOPHE insignificantly by GH¢ 34.81.

From the ATT results (Kernel matching technique), participating in NHIS has a positive and significant effect on OOPHE. This indicates that participating in NHIS by household heads minimise their OOPHE significantly and this may be due to the NHIS package that they have subscribed to.

Existence of inadequate financial protection compels most households to spend more on health services from their pocket. This has been proven in several studies including that of Karagiannaki (2009), Aryeetey et al., (2016), and Sekyi (2009). These findings are generally consistent with the literature which reveals that with NHIS participation, individual household members are more likely to minimise their OOPHE (Aryeetey et al., 2016; Giovanis & Ozdamar, 2016; Mekonen et al., 2018; Nguyen et al., 2011; Saksena et al., 2010). Especially, Mekonen et al. (2018) adopted propensity score matching analysis to estimate the effect of community based health insurance on catastrophic health expenditure in Northeast Ethiopia. Their results revealed that among the households with 20% catastrophic health expenditure, 4.41% were insured, whereas the remaining 15.64% were uninsured (Mekonen et al., 2018). Again, using data from Nkoransa and Offinso districts, Nguyen et al. (2011) reported that NHIS is able to reduce the likelihood of incurring high

cost on health care. A probit model was used to estimate the likelihood of catastrophic health expenditures.

However, excluded conditions in the NHIS and fast-treatment of illness has also been identified to have influenced the occurrence of OOPHE among the insured (Alkenbrack, 2011; Anderson et al., 2011; Aryeetey et al., 2016). According to Aryeetey et al. (2016), in Ghana, beneficiaries of NHIS sometimes deliberately leave their insurance cards at home to seek quick medical treatment that requires direct pocket payment.

Table 6.8 Treatment Effect on OOPHE (based on Kernel Matching)

Variable	Sample	Treated	Controls	Difference	Std. Err.	T-stat
	Unmatched	192.77	104.53	88.24***	29.14	3.03
Total OOPHE	ATT	189.43	109.66	79.77***	27.47	2.90

Note: ***, **, and * denote statistical level of significance at the 1%, 5% and 10% levels respectively

Source: Author's Estimation

CHAPTER SEVEN

7.0 SUMMARY, CONCLUSION AND RECOMMENDATIONS

7.1 Introduction

The focus of this study was to explore the factors that influence NHIS enrolment decisions among the poorest households and analyse the effect of NHIS membership on consumption, healthcare use and OOPHE. This chapter presents the summary of the research, draws the major conclusions that were derived from the empirical results, and gives recommendations, and scope for future research. It begins with a brief summary of the research, followed by the findings, the concluding remarks, the contribution of this study to knowledge, and finally recommendations.

7.2 Summary of Research

This study began with the observation that illness is one of the major health risks to health status that has pushed majority of households, especially the poorest below the poverty line, as they have to make direct payment for their health services. This has significant negative effects on their related health outcomes such as healthcare use, out-of-pocket health expenditure (OOPHE), and consumption (Asuming, 2013; Gertler & Gruber, 2002; Wagstaff, 2007). In an attempt to address the issue of decline in access to healthcare among poorest households, Social health insurance (SHI) has emerged as the most appropriate means. The intervention has become a critical component in poverty reduction, and it remains a key element of any effort to reduce social inequities and ensure the fundamental right to health, upon which social security is developed and achieved (Carrin & James, 2005; Scheil-Adlung et al., 2010).

This study set out to achieve four (4) objectives. Firstly, to examine the applicability of EUT, SDUT and HBM on NHIS enrolment decision in the context of Ghana; secondly, to compare the consumption between the insured and the uninsured LEAP households; thirdly to analyse the effects of NHIS membership on healthcare use among the poorest households and finally, to analyse the effects of NHIS membership on OOPHE among the poorest households. The study employed the theory of EUT, SDUT and HBM as theoretical underpinnings to examine NHIS enrolment decision among the poorest households in Ghana, using LEAP households in the Shai Osudoku and the Amansie West Districts. Both qualitative and quantitative methods were used to collect and analyse the data. Data were gathered through the use of in-depth interviews with officials (NHIA, DSW, CD and DHD) and FGDs with insured and uninsured household heads in selected communities in each district, and administration of questionnaires to sampled household heads.

A thematic analysis approach was used to reveal participants' motivation to enrol onto NHIS, their enrolment experiences, and their expected outcomes of enrolment. Again, to analyse household data collected in the study areas, propensity score matching (PSM) technique was applied to estimate the difference in outcomes between treated (insured) and control (uninsured) groups in order to overcome the problem of selection bias. In order to satisfy the balance assumption and ensure that the observed households characteristics between treated and control groups were balanced, the study estimated the propensity scores by employing a probit regression model. This propensity score estimation was based on common selective covariates that were likely to affect assignment treatment and outcomes. Based on these estimated scores, an average treatment effect on insured households was measured using nearest neighbor and kernel matching algorithm.

7.3 Empirical Findings

The NHIS aims among other things to provide financial risk protection against the cost of basic healthcare for residents of Ghana, especially the most vulnerable groups, against related financial burdening and catastrophic health expenditures.

The implementation of the NHIS has helped remove the financial burden which was preventing access to quality health services among the poorest households, and protected most households from the impoverishing effects of medical expenses. NHIS has also been responsive in ensuring smoothening of consumption, increasing healthcare services use, and minimizing OOPHE; hence, ensuring equity and justice in society.

The main empirical findings of this study, as found in chapters five (5) and six (6), and which provide answers to the three main research questions of this study are as follows.

Specific objective 1: *To examine the applicability of the existing theories on NHIS enrolment decision in the context of Ghana*

- a. **The HBM proved useful in uncovering factors that influence enrolment decision among poorest households.** Findings showed that the study used three theories (EUT, SDUT and HBM) to explain NHIS enrolment decisions among poorest households in Ghana. These theories indicate different factors that motivate households to enrol onto the NHIS which include risk and financial uncertainty, according to the EUT; socio-economic or health status, according to the SDUT; and perceptions of illness threat, benefits of action, barriers to action, self-efficacy and cues to actions, according to the HBM. However, decision of enrolling the poorest households onto NHIS was influenced by the theoretical constructs of HBM. The result disagrees with Amo, 2014; Antwi &

Zhao, 2012; Boamah, 2015; Jehu-Appiah et al., 2011; Kotoh & van der Geest, 2016. These authors in their studies identified poverty, affordability of contributions, demographic and socio-economic characteristics as factors that influence NHIS enrolment decisions among poor households.

b. Households' decision to enrol onto the NHIS is found to be mostly influenced by illness vulnerability and guaranteed financial access to healthcare. Findings from the study indicate that illness vulnerability, and guaranteed financial access to healthcare generally influence household heads decision to enrol onto NHIS in Ghana. Besides the above mentioned factors, the study findings also revealed that protection against NHIS-covered illnesses, and reduction of financial burden of illness motivate household heads to enrol onto the NHIS. For instance, a man at Ayikuma affirmed that his illness vulnerability motivated to enrol onto NHIS *...for securing my health for future, because my disease needs frequent check-ups, so there is the need for me to enrol onto health insurance. It helps me to manage the disease to bring its effects down [Male insured participant, Ayikuma, FGD/AP1-3]*. This result was an original finding of the study – **that illness vulnerability motivates members of the poorest households to enrol onto NHIS**. The result disagrees with Boateng and Awunyo-Vitor (2013) and Boamah (2015). These authors in their studies disclosed that perception of health status of respondents influence their decision to enroll or remain onto NHIS.

Again, most women enrolled onto NHIS to guarantee their financial access to healthcare. A woman in Mantetse lamented *...I do not have money so I have to enrol onto NHIS so that when I visit the hospital I will have free healthcare services because I do not really work... [Female insured participant, Mantetse, FGD/API-3]*. This result was consistent

with the study of Schneider (2004). The result was an original finding of the study – that **women in poorer households enrolled onto NHIS to guaranteed financial access to healthcare.** The result differs from what Schneider (2004) disclosed his findings. Schneider (2004) revealed financial risk as one of the factors that influence health enrolment decision among poor household.

- c. **Households’ enrolment experiences include registration decisions made by males, and registration challenges.** The study revealed that male household heads are vested with the power to take decisions regarding every facet of the household, including registering household members onto the NHIS. A possible explanation was that men in the course of protecting members of the household from bad effects of illness face financial risks. A woman at Odumse affirmed that *...it is the man who take decision. If he does not give the order, you cannot register. He is the head of the household... [Female uninsured participant, Odumse, FGD/ AP1-4]*. The result was the original finding of the study – **that male household heads in poorest households take decision to enrol households’ members.** The result differs from what Boamah (2015) and Jehu Appiah et al (2011) disclosed in their studies. These authors in their findings revealed that gender positively affect NHIS enrollment decisions among poor households.

Again, beside slow registration processes due to long queues at registration centres owing to poor internet network, the costs involved in travelling to distant places to register exerts a heavier financial burden on households.

- d. **Improved households’ enrolment rate.** Estimates from the total sample disclosed a distinct rise in the NHIS enrolment among the sampled households. Of the 547 household heads covered in the survey, approximately 86.65% of households’ members are insured

whereas approximately 13.35% are uninsured. Ironically, the improvement in sampled household heads enrolment rate was widely due to the LEAP enrolment package.

- e. **Significant differences exist between the insured and uninsured.** Additional estimates showed that significant differences exist between the insured and uninsured in relation to marital status, educational level, age and health care facility consultation status before matching.

Matching ensured that selective covariates were balanced for the causal effect estimations. Thus, the covariates were balanced effectively after matching and provide robust estimation of the effect of NHIS membership on consumption expenditure, health care use and total OOPHE.

Specific objective 2: *To compare the consumption between the insured and the uninsured poorest households'*

- a. **Subscription to the NHIS led to an increase in consumption expenditure among insured.** Using Kernel matching, calculated average treatment effect on treated (ATT) value in treated and control groups were GHC 1077.00 and GHC 808.57 respectively. The treatment effect suggests that NHIS membership had increased consumption expenditure by approximately GHC 263.43 among the insured. This implies that the consumption of the insured group was higher than that of the uninsured group. The result was significant and robust in the estimation. The result was an original finding of the study- that **insured poorest households significantly have increased consumption expenditure.** The result disagrees with what Sheu and Lu (2014) reported in their study. These authors in their findings reported that NHI improves spending on household conditions (rental and water bills).

Specific objective 3: *To analyze the effects of NHIS membership on healthcare use among the poorest households.*

- a. **NHIS membership increased the use of healthcare services.** Using kernel matching, calculated ATT value in treated and control groups were 2.3 visits and 1.57 visits respectively. The treatment effect suggests that NHIS membership had increased hospital visits by 0.74 visits among the insured. This implies that hospital visits of the insured group was higher than that of the uninsured group. The result was the original finding of the study – **that insured poorest households significantly have increased hospital visits.** In contrast, a study by Lu et al. (2012) evaluating the impact of the Rwandan community-based health insurance programme, found that the poorest beneficiaries had the lowest rates of utilization.

Specific objective 4: *To analyze the effects of NHIS membership out-of-pocket health expenditure (OOPHE) among the poorest households.*

- a. **Households' enrolment onto the NHIS minimized OOPHE.** Using Kernel matching, calculated ATT value in treated and control groups were GHC 189.43 and GHC 109.66 respectively. The treatment effect suggests that NHIS membership had reduced OOPHE by about GHC 79.77 among the insured. The result was statistically significant and robust in the estimation. This implies that OOPHE of the insured group was indeed reduced than that of the uninsured group. The result was the original finding of the study – **that insured poorest households significantly have reduced OOPHE.** The result agrees with what Aryeetey et al (2016), Giovanis and Ozdamar (2016), Mekonen et al (2018), Nguyen et al (2011) and Saksena et al (2010). Mekonen et al. (2018) adopted propensity score matching analysis to estimate the effect of community based health insurance on

CHE in Northeast Ethiopia. Their results revealed that among the households with 20% catastrophic health expenditure, 4.41% were insured, whereas the remaining 15.64% were uninsured (Mekonen et al., 2018). Again, Nguyen et al. (2011) reported that even though insured people still incurred out of pocket payments for care from informal services, uncovered drugs, tests at the health facilities, the insured paid significant less than the uninsured. Thus, NHIS has reduced the likelihood of incurring catastrophic payment among the insured.

Generally, the above mentioned results of the study differ from the empirical findings stated in the conceptual framework (chapter 3).

7.4 Contribution of Research to Knowledge

The study has contributed to existing knowledge in several respects, and this is presented in this section.

(i) Contribution to empirical literature

While the literature in the area of health insurance enrolment decisions focused on the poor, this study dealt with that of the poorest households. Again, the literature identified multi-factors that influence the poor households enrolment decisions (Amo, 2014; Antwi & Zhao, 2012; Awuku et al., 2014; Boamah, 2015; Boateng & Awunyo-Vitor, 2013; Jehu-Appiah et al., 2011; Kotoh & van der Geest, 2016; Noi, 2012; Sekyi, 2009), but this study revealed that the poorest get enrolled onto NHIS scheme to increase their consumption, healthcare use, and minimize OOPHE. Hence, the study has made empirical contributions to knowledge by offering empirical explanations to understand the changing nature of poorest households' enrolment decisions onto health insurance and extending the coverage of the effects of social health protection.

Also, the study has added value to and confirmed factors which are found to influence household heads enrolment decisions

(ii) Contribution to theoretical literature

Study used three relevant theories to explain NHIS enrolment decision in Ghana. However, the study identified the significant components of the HBM as more applicable in explaining NHIS enrolment decisions among the poorest households. Hence, the study has made theoretical contributions to knowledge by contributing to the contextual implementation of HBM, particularly by explaining and predicting health-related behaviour among the poorest households, improving the general application of the model and expanding the contextual knowledge base of the model.

(iii) Contribution to methodology

In the course of reviewing the empirical studies on factors influencing NHIS enrolment decisions among households, the researcher noticed that most of these studies made use of qualitative research design (Aglobitse & Addai-Asante, 2015; Amo, 2014; Antwi & Zhao, 2012; Awuku et al., 2014; Boamah, 2015; Boateng & Awunyo-Victor, 2013; Jehu-Appiah et al., 2011; Kotoh & van der Geest, 2016; Noi, 2012; Nuhu, 2012; Sekyi et al., 2015). This gave the researcher insight to adopt a novel method to tackle the same problem and reap better results. By employing the qualitative approach instead of a quantitative approach, the study has added depth of understanding of NHIS enrolment decisions among the poorest households in Ghana. The findings from the qualitative research for instance, provided an insight and understanding on the factors that influence NHIS enrolment decision from the perspective of the respondents and officials. This has set the methodological pace for researchers and students to follow when conducting similar studies.

(iv) Contribution to Health Policy and Management

Finally, the study has contributed to the area of Health policy and management by providing new knowledge to formulate strategies to attract and manage the poorest households on NHIS, strengthen NHIS to overcome issues of access, cost and equity among the poorest and effectively sustain NHIS enrollment rate. This makes a huge difference in providing better policies to ensure effective implementation of the NHIS.

7.5 Recommendations of the Study

In line with findings from this study, some recommendations have been proposed to make NHIS remain a significant financial tool to promote equity in access, and financial coverage for basic services for all citizens so as to create more inclusive spaces and approaches to health service delivery.

(i) Need to develop develop and implement intervention activities

Apart from enrolment experiences, there are a lot of challenges that adversely affects enrolment level among poorest households. This sometimes causes high rate of attrition from the scheme among the insured household members. It is recommended that NHIA should engage District Health Insurance Schemes (DHISs), health providers and other stakeholders to develop and implement intervention activities to eliminate unwarranted charges levied against members of poorest households, shortages of medicines at the health facilities and enforce the compulsory enrolment stated in the NHIS policy to move the scheme towards UHC.

(ii) The need to provide mobile registration centres and better network

Secondly, findings from the qualitative analysis revealed that access to registration centres is very difficult as household members have to travel longer distances at high transport cost to register.

It is recommended that NHIA should provide mobile registration centres and better network, especially in the poor rural communities to enhance geographical access and reduce cost.

(iii) The need for much education and advocacy through the mass media

Thirdly, findings of the study also indicated that insured household members have the illusion that registration with the NHIS absorbs all medical expenses; and therefore, when they are faced with the reality to pay some selected medical expenses (fees), they get disillusioned and declared the scheme as less beneficial than they envisaged. It is recommended that NHIA should provide much education and advocacy through the mass media on the relevance of enrolling onto NHIS, giving insight on some challenges that sometimes prevent them from enrolling onto the scheme. This will help the household members to appreciate the need to enrol onto the scheme in order to protect themselves against health risks and shocks.

Again, the intervention awareness programs through media should address social and cultural dynamics of health among most vulnerable households. The campaigns should focus on preventive strategies. Furthermore, human relations need to be socially engineered in such a way that support structures could promote access to healthcare services among the poorest. Mental health must be given due attention as it remains a significant producer of ill-health.

(iv) Need to expand and strengthen operations of exempt categories that target poorest households' members

This study showed a distinct rise in the NHIS' enrolment among the sampled households. Additionally, gender roles, costs involved in travelling to the registration centres, and slow and long queues at the registration centres were identified as other factors that influence enrolment onto the NHIS among poorest households' members. There is the need for policy-makers to develop strategies to expand and strengthen operations of the exempt categories of NHIS

membership that target individuals from poorest households. Extending health insurance coverage to individuals from poorest households through exempt categories of the scheme would accelerate progress towards universal health coverage (UHC).

7.6 Conclusion

In this study, we explored the factors that influence NHIS enrolment decisions among the poorest households in the Shai Osudoku and Amansie West districts. The study concludes that illness vulnerability and guaranteed financial access to healthcare influence NHIS enrolment decisions amongst poorest households in Ghana. The study findings also led to the conclusion that there is higher NHIS enrolment rate among the insured by, approximately 86.65%. This led to an increase in consumption, use of healthcare services and reduction of OOPHE among insured households. However, enrolment decisions onto NHIS were faced with challenges such as gender roles, long distances to registration centers with accompanied high cost, slow registration process due to poor internet connectivity and others. These challenges discouraged new enrolment and renewal of enrolment. Yet, NHIS continues to play a critical role towards attaining Universal health coverage (UHC) which is pathway for attaining the Sustainable Development Goals (SDGs).

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APPENDIX 1 - QUALITATIVE**Table AP1-1 Identification and Profile of FGDs**

Identification	Gender	Enrolment status	Range of educational background	Setting (Rural and Urban)
Dawusaso Gyegyetroso- FGD1	Female	Insured	Primary to Junior high	Rural
Dome_Beposo- FGD2	Female	Uninsured	Primary to Junior high	Rural
Mantetse - FGD3	Female	Insured	Uneducated to Junior high	Rural
Odumse - FGD4	Female	Uninsured	Uneducated to Junior high	Rural
Abiram-Manso- FGD5	Male	Uninsured	Uneducated to Junior high	Rural
Ayikuma- FGD6	Male	Insured	Uneducated to Junior high	Rural
Sota - FGD7	Male	Uninsured	Uneducated to Junior high	Rural
Subinso- Edubiaso- FGD8	Male	Insured	Uneducated to Junior high	Rural

Source: Author's Construct, 2018

Table AP1-2 Identification and Profile of KIIs

Identification	Interviews
KII1	KII Amansie West -Health Directorate
KII2	KII Amansie West- District Social Welfare Officer
KII3	KII Amansie West -MSI Health Insurance
KII4	KII Shaiosudoku- District Social Welfare Officer
KII5	KII Shaiosudoku- NHIS officers
KII6	KII Shaiosudoku-District Community Development Officer

Source: Author's Construct, 2018

Table AP1-3 Thematic Framework for Preconditions to enrolment (Perceived illness vulnerability and Perceived financial benefits)

Global theme	Organizing theme	Basic theme	Description	Source	Quotes
<i>NHIS enrolment decisions</i>	<i>Pre-conditions to enrolment</i>	<i>Perceived illness vulnerability</i>	<i>Households decision is enrol onto NHIS because of perceived risk illness vulnerability</i>	<i>Reference</i>	<i>Name: Perceived illness vulnerability</i>
				<Internals\FGD\Male FGDs\Ayikuma- Insured Male FGD> - § 6 references coded [6.38% Coverage]	Reference 2-1.33% coverage ¶43: Respondent: For securing my health for future. My disease needs frequent check-ups, so there is the need for me to enrol onto health insurance. It helps me to manage the disease to bring its effects down
				<Internals\FGD\Female FGDs\Dawusaso Gyegyetros- Insured Female FGD> - § 6 references coded [8.75% Coverage]	Reference 5-2.00% coverage ¶46: Respondent: Yes, as for the aged, we are more prone to chronic diseases such as BP, hence, the need for insurance cover as we cannot bear the cost alone in such situation.

					Reference 5-1.01% coverage ¶51: Respondent: Any time my wife got pregnancy it comes with complications hence the need for health insurance. Some women also get ill often during pregnancy
				<Internals\\KIIs\\KII Amansie West- Social Welfare Worker> - § 1 reference coded [5.86% Coverage]	Reference 1-5.86% coverage ¶9: Respondent: Registration onto the scheme is one of the conditionalities for all LEAP beneficiaries who are faced with poor health condition and uncertainty when sickness occurs.
<i>NHIS enrolment decisions</i>	<i>Pre-conditions to enrolment</i>	<i>Perceived financial benefits</i>	<i>Households decision to enrol onto NHIS because of the perceived financial benefits of NHIS</i>	<i>Reference</i>	<i>Name: Perceived financial benefits</i>
				<Internals\\FGD\\Female FGDs\\Mantetse - Insured Female FGD> - § 8 references coded [10.09% Coverage]	Reference 5-1.05% coverage ¶31: Respondent: I do not have money so I have to enrol onto NHIS so that when I visit the hospital I will have free healthcare services because I do not really work.
					Reference 8-1.43% coverage ¶90: Respondent: I enrolled onto health insurance because of the

					dangers of illness and not able to pay in the future. I can fall sick any time or involved in an accident and I do not have money to pay.
				<Internals\\FGD\\Female FGDs\\Dome- Beposo- Uninsured Female FGD> - § 7 references coded [10.58% Coverage]	Reference 5-2.35% coverage ¶47: Respondent: Some of us are widows so we may not have the financial muscle and where the husbands are alive, they usually do not have the financial strength to take care of the children when they take ill all of a sudden.
					Reference 4-2.12% coverage ¶42: Respondent: For me, I cannot work again and I am staying alone too because my daughter has left me due my frequent visit to the hospital, so I have to enrol onto the health insurance to help myself.
				<Internals\\KIIs\\KII Amansie West -Health Directorate worker > - § 4 references coded [28.20% Coverage]	Reference 2-8.30% coverage ¶13: Respondent: Most of the time in Amansie West here, socioeconomic status (poverty) is the main reason for their enrolment to the scheme. This is because if they do not have the card and they cannot attend any health facility and they will ultimately need to pay.

Table AP1-4 Thematic Framework for Enrolment experiences (Enrolment decision by males, Enrolment decision by females, Registration challenges and Ways to improve enrolment)

Global theme	Organizing theme	Basic theme	Description	Source	Quotes
<i>NHIS enrolment decisions</i>	<i>Enrolment experiences</i>	<i>Enrolment decision by males</i>	<i>Household decision to enrol to NHIS made by male household member</i>	<i>Reference</i>	<i>Name: Enrolment decision by male</i>
				<Internals\FGD\Female FGDs\Odumse - Uninsured Female FGD> - § 2 references coded [1.41% Coverage]	Reference 2-0.76% coverage ¶91: Respondent: It is the man. If he does not give the order, you cannot register. He is the head of the household.
				<Internals\FGD\Female FGDs\Dawusaso Gyegyetroso- Insured Female FGD> - § 2 references coded [3.61% Coverage]	Reference 1-1.45% coverage ¶60: Respondent: For me, it is the man. If he tells us (the family), to lay down our cocoa tools to go and register, we follow him.
				<Internals\FGD\Male FGDs\Abiram-Manso- Uninsured Male FGD> - § 2 references coded [2.77% Coverage]	Reference 1-1.12% coverage ¶42: Respondent: It is the man, because we are the head of the household and we take care of the house.

					Reference 2-1.66% coverage ¶43: Respondent: We have gone to bring the woman from her family so it is our sole responsibility to take care of them by directing them to register.
				<Internals\\FGD\\Male FGDs\\Sota - Uninsured Male FGD> - § 1 reference coded [1.25% Coverage]	Reference 1-1.25% coverage ¶87: Respondent: In our setting, it is the male head of the household. The male or husband informs or explains to the wife on the importance of the insurance and the need to register.
<i>NHIS enrolment decisions</i>	<i>Enrolment experiences</i>	<i>Enrolment decision by females</i>	<i>Household's decision to enrol to NHIS made by female household member</i>	<i>Reference</i>	<i>Name: Enrolment decision by female</i>
				<Internals\\FGD\\Female FGDs\\Dawusaso Gyegyetroso- Insured Female FGD> - § 2 references coded [2.55% Coverage]	Reference 1-1.06% coverage ¶61: Respondent: It is mainly the women. This is because the children are always with the mother.
				<Internals\\FGD\\Female FGDs\\Dome- Beposo- Uninsured Female FGD> -	Reference 2-2.55% coverage ¶73: Respondent: It is we the women, because, as we are with the children most of the time, we are restless when they take ill. It is unlike

				§ 2 references coded [3.69% Coverage]	the men so we notify them on the urgent need for insurance to prevent any unforeseen circumstances.
				<Internals\\FGD\\Female FGDs\\Odumse - Uninsured Female FGD> - § 4 references coded [3.96% Coverage]	Reference 2-1.12% coverage ¶93: Respondent: Sometimes, the man may say there is no money so you can risk it when one day the child gets sick, hence, that's why I registered for the insurance.
				<Internals\\FGD\\Female FGDs\\Mantetse - Insured Female FGD> - § 1 reference coded [1.49% Coverage]	Reference 1-1.49% coverage ¶68: Respondent: It is we, the female parents that take the decision. As for the men, they do not have time. They (the men) always have the assertion that they don't normally get sick so they deem it less important.
				<Internals\\KII\\KII Amansie West -MSI Health Insurance> - § 1 reference coded [7.07% Coverage]	Reference 1-7.07% coverage ¶16: Respondent: Respondent: It is mainly the women. For example, for pregnant women, because of the high cost of living, they prefer going to enrol due to the free birth that comes as a benefit to it. They also make sure their children are registered.
				<Internals\\FGD\\Male FGDs\\Ayikuma- Insured Male FGD> - § 4 references coded [4.79% Coverage]	Reference 1-0.90% coverage ¶70: Respondent: Sometimes, the women also do well. They suggest to that one needs to enrol onto the NHIS to guard against diseases or illness.

				<Internals\FGD\Male FGDs\Subinso- Edubiaso- Insured Male FGD> - § 1 reference coded [1.47% Coverage]	Reference 1-1.47% coverage ¶53: Respondent: It is we the women. I for instance, my wife was the one who brought the idea that we should go and register.
NHIS enrolment decisions	Enrolment experiences	Registration challenges	NHIS registration challenges identified by respondents	Reference	Name: Registration challenges
				<Internals\FGD\Female FGDs\Odumse - Uninsured Female FGD> - § 1 reference coded [4.83% Coverage]	Reference 1-4.83% coverage ¶101: Respondent: It is the long queue we have to be in it, but one who is only exempted is pregnant person.
					¶102: Respondent: Sometimes, we have to leave here at 4am to NHIS office, and may return in the evening.
				<Internals\FGD\Male FGDs\Ayikuma- Insured Male FGD> - § 1 reference coded [6.05% Coverage] <Internals\FGD\Female FGDs\Mantetse - Insured Female FGD> - § 2 references coded [4.32% Coverage]	Reference 1-6.05% coverage ¶96: Respondent: One sacrifices one's work for registration because we have to join a long queue... and that is why most men do not go because the registration wastes time. Reference 1-3.94% coverage ¶61: Respondent: Sometimes it takes a long time to register. There are cases where it will take from morning to evening before you can register.

					The staff always complain of network issues causing the delay.
					¶62: Respondent: The distance to the registration centres is also a problem. Some of us come from a far such as Ashaiman junction, Afienya to Dodowa to register and this is a hindrance to us. Hence, we encourage for centres to be close to those who want to register. Transportation cost alone could discourage someone coupled with registration cost.
				<Internals\FGD\Male FGDs\Ayikuma- Insured Male FGD> - § 1 reference coded [6.05% Coverage]	¶91: Respondent: There are challenges with transportation cost. In the case where there is no money as transport cost, enrolment onto NHIS becomes very difficult. Sometimes in addition, you would have to pay “something small” to the officials before you are register.
				<Internals\FGD\Female FGDs\Dawusaso Gyegyetroso- Insured Female FGD> - § 1 reference coded [5.41% Coverage]	Reference 1-5.41% coverage ¶68: Respondent: Unlike first, where you can register for your children, it is not so now. You have to board a vehicle with all your children so they can have their fingerprints taken for the registration and this is tedious especially considering the transportation cost.

				<Internals\\KIIs\\KII Shai-Osudoku- District Social Welfare Officer> - § 1 reference coded [8.71% Coverage]	Reference 1-8.71% coverage ¶17: Respondent: On the other hand, some communities in the hinterlands really face serious challenges when they had to come to renew their insurance cards, because the distance from their communities to the main health centre is even more than what one benefits if the person is enrolled on the health insurance scheme.
<i>NHIS enrolment decisions</i>	<i>Enrolment experiences</i>	<i>Ways to improve enrolment</i>	<i>Participants suggested ways of enhancing NHIS enrolment</i>	<i>Reference</i>	<i>Name: ways to improve enrolment</i>
				<Internals\\FGD\\Female FGDs\\Dawusaso- Gyegyetroso- Insured Female FGD> - § 1 reference coded [4.31% Coverage]	Reference 1- 4.31% coverage ¶71: Respondent: We wish they could allow us to register for the children with their photo instead of physically bringing them.
				<Internals\\FGD\\Male FGDs\\Sota - Uninsured Male FGD> - § 2 references coded [6.14% Coverage]	Reference 1- 5.05% coverage ¶104: Respondent: The government can send information through the electoral area to better get to the people closer. People can go as far as Dodowa to be insured but if it is closer through the electoral area, the government will get more people to register. Hence, it should be moved from the districts to the electoral area.

				<Internals\FGD\Female FGDs\Odumse - Uninsured Female FGD> - § 2 references coded [2.98% Coverage]	Reference 1- 1.93% coverage ¶110: Respondent: We thought the health insurance was cost free but we end up paying monies; so, the government can do something about the whole scheme. We will be very glad.
				<Internals\FGD\Male FGDs\Ayikuma- Insured Male FGD> - § 3 references coded [8.19% Coverage]	Reference 2- 1.15% coverage ¶99: Respondent: Messages that assure there is sufficiency and quality of drugs available for NHIS services
					¶100: Respondent: Various diseases and their corresponding medications should be made available through text messages. This will put fear in the health personnel,
				<Internals\KIIs\KII Amansie West -MSI Health Insurance> - § 1 reference coded [2.35% Coverage]	Reference 1- 2.35% coverage ¶18: Respondent: Messages on the benefits of the scheme will make the people enrol
				<Internals\KIIs\KII Shai-Osudoku- District Social Welfare Officer> - § 1 reference coded [6.27% Coverage]	Reference 1- 6.27% coverage ¶19: Respondent: Yes, I think the communication messages should always be on going just like we hammer on the HIV messages and other diseases so that it will always ring in their minds instead of once a while

				<Internals\\KIIs\\KII Shai-Osudoku-District Community Devt. Officer> - § 2 references coded [15.91% Coverage]	Reference 1- 7.51% coverage ¶16: Respondent: What I would suggest is that, if the person is coming from a long distance such as Odumse, and they have even closed, they should try to register the person.
					¶16: Respondent: Text message would not help because they do not read. Some are on other networks that sends them messages frequently and they do not read them. The most effective way is getting the people and interacting with them face-to-face on daily basis- church group meetings, social gatherings etc.

Table AP1-5 Thematic Framework for Expected outcomes (Reduce financial burden of illness and Secured against NHIS insured illnesses)

Global theme	Organizing theme	Basic theme	Description	Source	Quotes
<i>NHIS enrolment decisions</i>	<i>Expected outcomes</i>	<i>Reduce financial burden of illness</i>	<i>Respondents expect their financial burden associated with uncertainties of their illnesses expenditures to reduce</i>	<i>Reference</i>	<i>Name: Reduce financial burden of illness</i>
				<Internals\FGD\Female FGDs\Mantetse - Insured Female FGD> - § 2 references coded [3.28% Coverage]	Reference 2- 1.01% coverage ¶24: Respondent: When I sent my mother for X-ray, her cost was low as compared to those without the health insurance who paid almost 400 cedis for the same x-ray.
					Reference 1- 2.23% coverage ¶19: Respondent: Subscribing to the NHIS has reduce our risk of illness and indecision to be to pay clinic fees. Insurance has reduced our cost of healthcare when we visit the clinic. We pay very less for our treatment as government has taken a chunk of the cost.

					They take of you fast if you have the health insurance card.
				<Internals\FGD\Male FGDs\Abiram- Manso- Uninsured Male FGD> - § 2 references coded [3.58% Coverage]	Reference 1- 2.04% coverage ¶12: Respondent: For me, as when my wife was taken ill and I sent her to the hospital but because of her insurance card, we paid a little amount and she was taken care of very early.
				Internals\FGD\Male FGDs\Sota - Uninsured Male FGD> - § 2 references coded [1.79% Coverage]	Reference 2- 0.86% coverage ¶73: Respondent: The benefits also extend to the reduction in medical cost and drugs available to you freely as a subscriber.
<i>NHIS enrolment decisions</i>	<i>Expected outcomes</i>	<i>Secured against NHIS insured illnesses</i>	<i>Respondent's expectation that NHIS registration secures their health care against insured illnesses</i>	<i>Reference</i>	<i>Name: Secured against NHIS insured illnesses</i>
				<Internals\FGD\Female FGDs\Mantetse - Insured Female FGD> - § 2 references coded [2.14% Coverage]	Reference 1- 1.43% coverage ¶57: Respondent: First is that, I do not join a queue when I visit the hospital because I am insured. Secondly, I have hope of quicker recovery because I am giving

					proper care. Lastly, I received my treatment early.
				<Internals\FGD\Male FGDs\Abiram-Manso- Uninsured Male FGD> - § 1 reference coded [1.40% Coverage]	Reference 1- 1.40% coverage ¶22: Respondent: For me, I know the insurance covers hernia so that is why I wanted to register to reduce my fears of illness.
				<Internals\FGD\Male FGDs\Ayikuma- Insured Male FGD> - § 1 reference coded [0.78% Coverage]	Reference 1- 0.78% coverage ¶22: Respondent: In the event where there may be unexpected occurrences enrollment onto the insurance will save the family.
				<Internals\FGD\Male FGDs\Sota - Uninsured Male FGD> - § 2 references coded [2.15% Coverage]	Reference 1- 1.48% coverage ¶70: Respondent: The benefits are numerous. In accidents and severe illness for example, you will be attended to very quickly when they realize you are a cardholder. Anything can happen so I have to secure yourself.

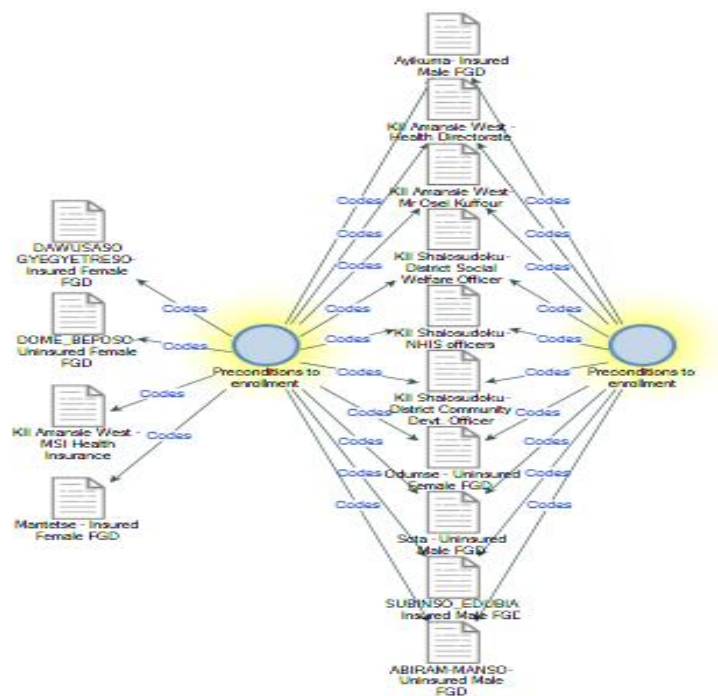


Figure AP1-6 Comparison of pre-conditions of enrollment between NHIS enrollment and EUT

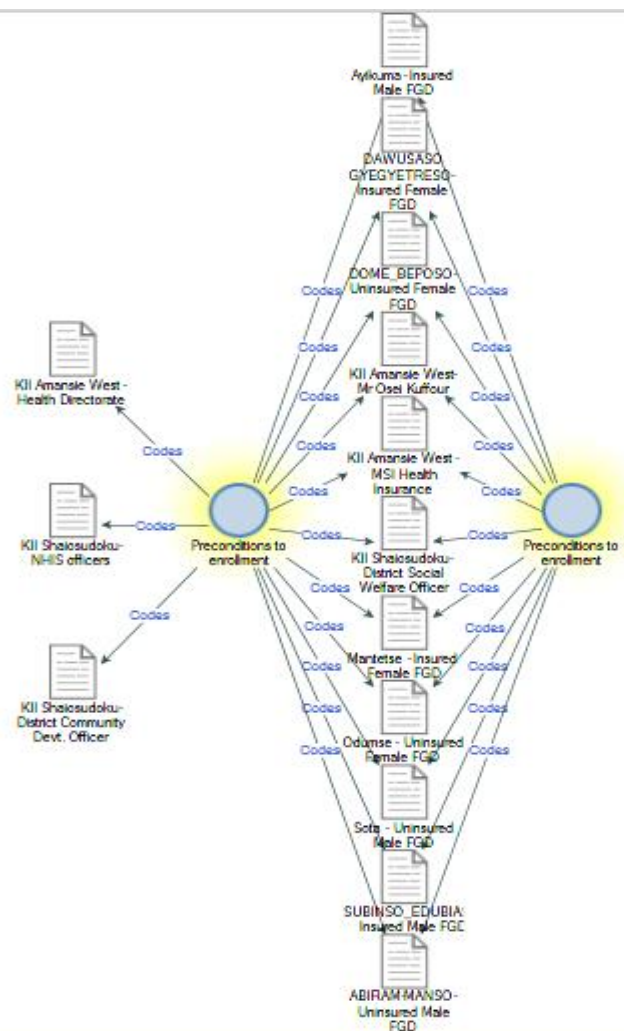


Figure API-7 Comparison of pre-conditions of enrollment between NHIS enrollment and SDUT

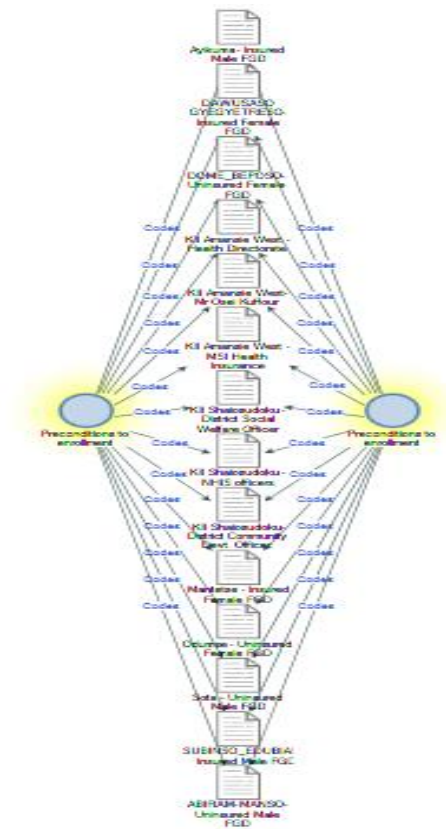


Figure API-8 Comparison of pre-conditions of enrollment between NHIS enrollment and HBM

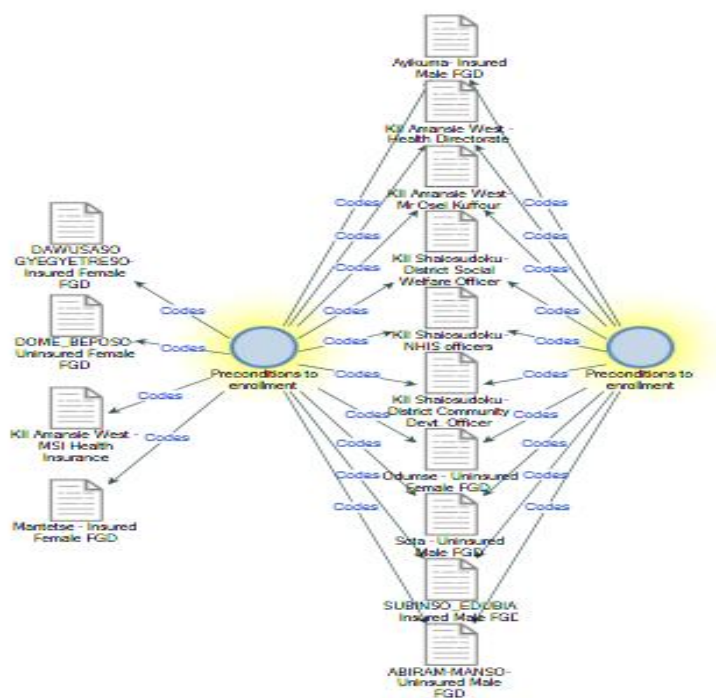


Figure API-9 Comparison of enrollment experiences between NHIS enrollment and EUT

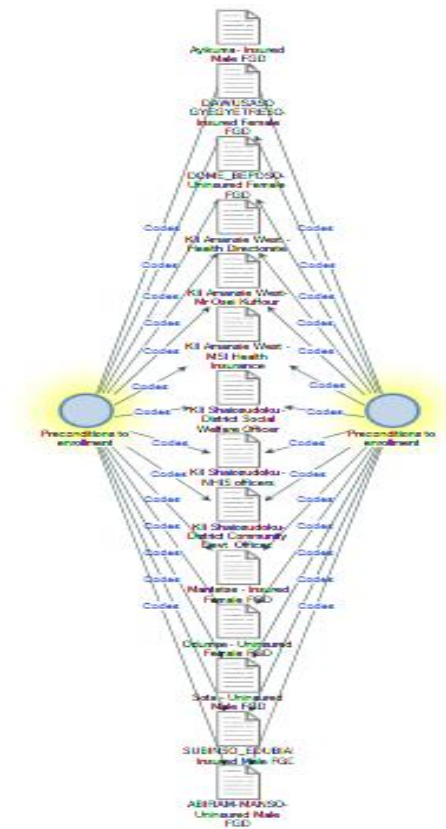


Figure API-10 Comparison of enrollment experiences between NHIS enrollment and HBM

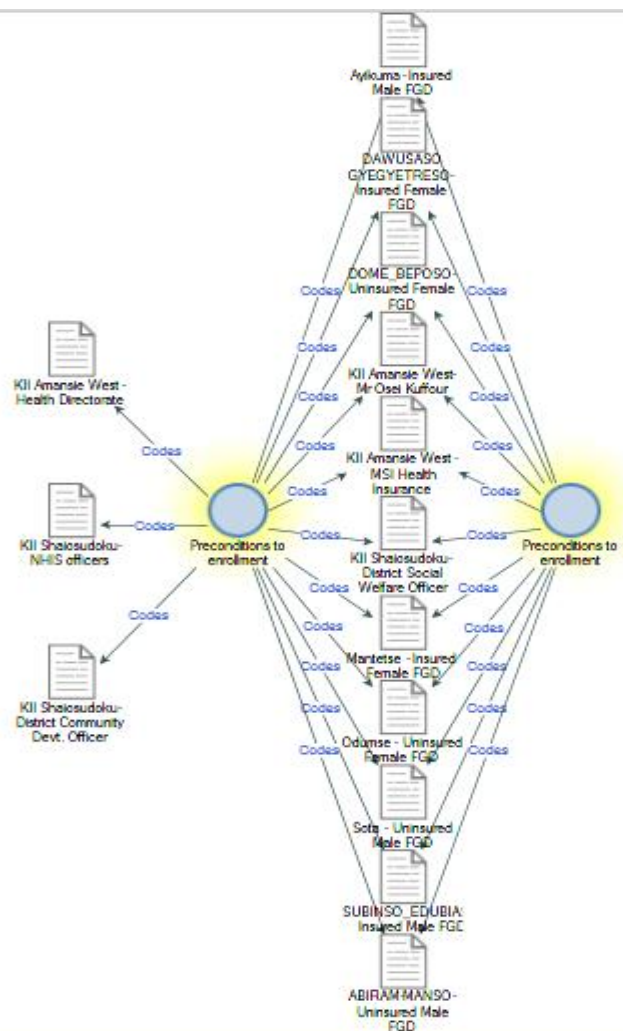


Figure API-11 Comparison of expected outcomes between NHIS enrollment and EUT

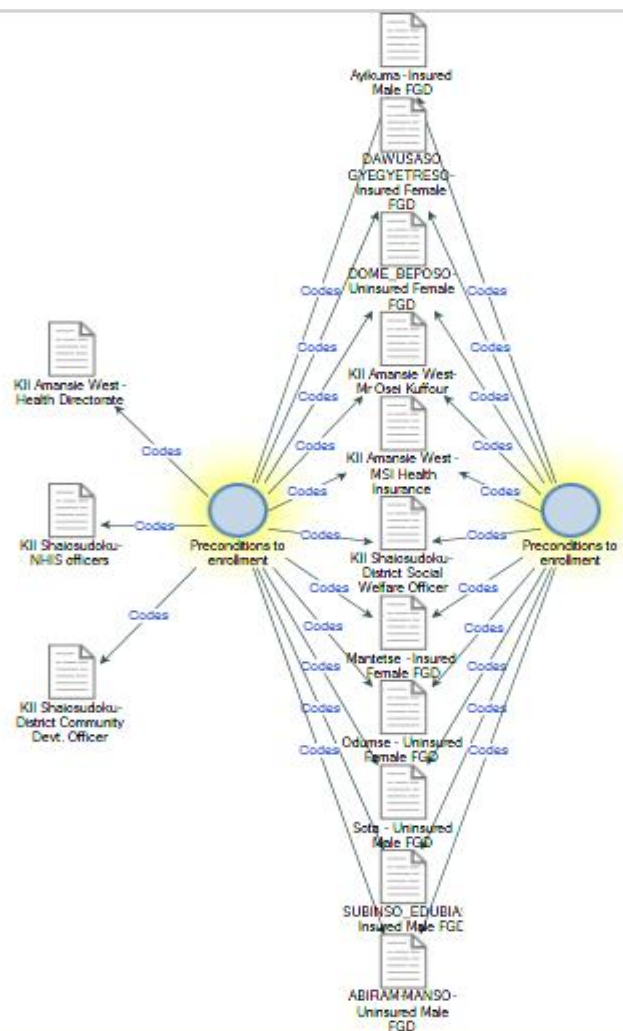


Figure API-12 Comparison of expected outcomes between NHIS enrollment and SDUT

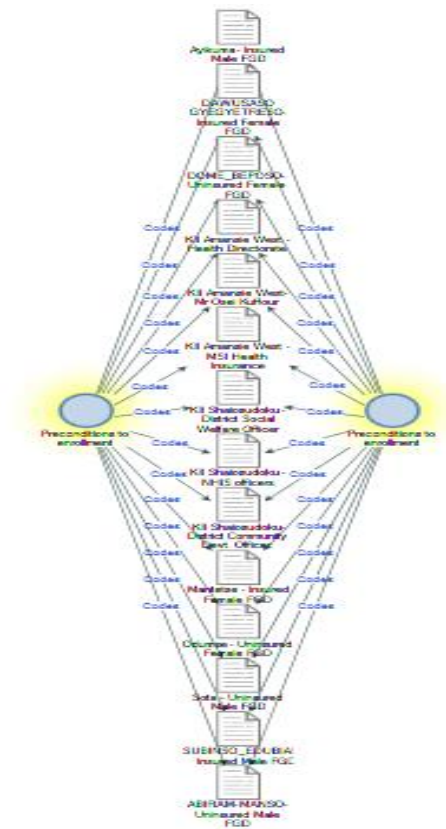


Figure API-13 Comparison of expected outcomes of NHIS enrollment and HBM

APPENDIX 2 -QUANTITATIVE

Table AP2-1 in Appendix 2 NHIS membership in Shai- Osudoku and Amansie West Districts

NHIS Membership	Shai- Osudoku District	Amansie West District	Total
	Frequency	Frequency	Frequency
Insured	208	266	474
Uninsured	48	25	73
Total Sample	336	291	547

Source: Survey Data, 2018

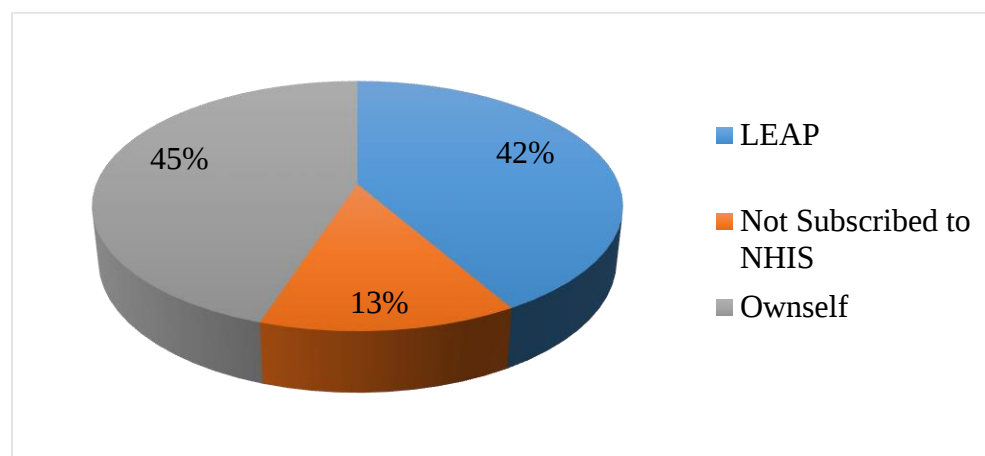


Figure AF2-1 in Appendix 2 NHIS Subscription

Table AP2-2 in Appendix 2 Probit regression estimating the probability of household enrolment on the NHIS

Variable	Coefficients (dy/dx)	Std. Err.	Z- stat	P>z	[95% Conf. Interval]	
Household size	-0.003	0.005	-0.67	0.503	-0.013	0.006
Male (<i>Ref: Female</i>)	-0.052	0.037	-1.4	0.161	-0.125	0.021
In marital union (<i>Ref: not in marital union</i>)	-0.063	0.032	-1.94	0.053	-0.126	0.001
Aged 18-65 years (<i>Ref: aged 65+</i>)	-0.115	0.035	-3.32	0.001	-0.182	-0.047
Education (<i>Ref: No education</i>)						
Primary	-0.019	0.049	-0.39	0.698	-0.115	0.077
JSS/JHS	0.066	0.059	1.11	0.266	-0.050	0.183
Middle School	0.130	0.041	3.21	0.001	0.051	0.210
Occupation (<i>Ref: Unemployed</i>)						
Farming/Fishing	0.110	0.039	2.79	0.005	0.033	0.187
Trader/Business	0.083	0.053	1.56	0.119	-0.021	0.188
Artisan	0.174	0.046	3.77	0.000	0.084	0.265
Chronic illness	0.054	0.032	1.67	0.095	-0.009	0.118
Perceived health status	0.024	0.032	0.75	0.455	-0.039	0.088
Literacy	-0.013	0.061	-0.21	0.834	-0.132	0.107
Disability	0.020	0.032	0.62	0.536	-0.043	0.082
Travel cost	0.003	0.001	2.9	0.004	0.001	0.005
Number of observations	547					
LR chi2(15)	56.33					
Prob > chi2	0.0000					
Log likelihood	-186.75368					
Pseudo R2	0.1310					

Note: The dependent variable is the treatment variable (1=insured 0=uninsured). The coefficients are the marginal effects of the various independent variables on the decision to enrol.

Table AP2-3 in Appendix 2 Treatment Effect on Consumption (Nearest Neighbour Matching)

Variable	Sample	Treated	Controls	Difference	Std. Err.	T-stat
Household consumption expenditure	Unmatched	1065.74	744.24	321.51***	135.54	2.37
	ATT	1072.00	787.12	284.89**	143.52	1.98

*Note: ***, **, and * denote statistical level of significance at the 1%, 5% and 10% levels respectively*

Source: Author's Estimation

Table AP2-4 in Appendix 2 Treatment Effect on Healthcare use (Nearest Neighbour Matching)

Variable	Sample	Treated	Controls	Difference	Std. Err.	T-stat
Number of hospital consultations	Unmatched	2.31	1.66	0.65***	0.12	5.42
	ATT	2.31	1.57	0.74***	0.19	3.87

*Note: ***, **, and * denote statistical level of significance at the 1%, 5% and 10% levels respectively*

Source: Author's Estimation

Table AP2-5 in Appendix 2 Treatment Effect on OOPHE (Nearest Neighbour Matching)

Variable	Sample	Treated	Controls	Difference	Std. Err.	T-stat
	Unmatched	192.77	104.53	88.24***	29.14	3.03
Total OOPHE	ATT	189.43	154.62	34.81	51.05	0.68

*Note: ***, **, and * denote statistical level of significance at the 1%, 5% and 10% levels respectively*

Source: Author's Estimation

APPENDIX 3 - RESEARCH INSTRUMENTS

I: Household Survey Questionnaire

UNIVERSITY OF GHANA, LEGON BUSINESS SCHOOL HOUSEHOLD SURVEY QUESTIONNAIRE

This research is being carried out by a graduate student of the University of Ghana to examine the **Healthcare and consumption effect of health insurance enrolment among poorest households in selected districts**. I would be very grateful if you could kindly provide us with all the necessary responses to the questions stated below. All information given will be treated with much confidentiality. Thank you for your co-operation and time.

IDENTIFICATION

ID1	Questionnaire ID Number: [.....]	Date of Interview: [.....]
ID2	Region: 1. Greater Accra ☐ 2. Ashanti ☐	District: 1. Shai Osudoku ☐ 2. Amansie West ☐
ID3	Household Identification No: [.....]	Telephone number: [.....]
ID4	Name of Interviewer: [.....]	Community/Town: [.....]

SECTION A: INDIVIDUAL CHARACTERISTICS

To start, I would like to ask some questions about you.

A1:	Name of respondent	[.....]	
A2:	Are you a household head?	1 = Yes ☐ 0 = No ☐ if no, skip to section B	(Please, tick a box)
A3:	Sex of respondent	1 = Male ☐ 0 = Female ☐	
A4:	Age of respondent (in years)	1 = 18 -25 ☐	

		2 = 26 – 33 ☐ 3 = 34 - 41 ☐ 4 = 42 – 49 ☐ 5 = 50- 57 ☐ 6 = 58 – 65 ☐ 7 = 65+ ☐ 99 = Don't know ☐	
A5:	Marital status of respondent	1 = Single ☐ 2 = Cohabiting/informal/Consensual ☐ 3 = Married ☐ 4 = Divorced ☐ 5 = Separated ☐ 6 = Widowed ☐	
A6:	Can you read and write English?	1 = Yes ☐ 0 = No ☐	
A7:	Can you read and write any local language?	1 = Yes ☐ 0 = No ☐	
A8:	What is your highest level of formal education?	0 = Never been to school ☐ 1 = Primary ☐ 2 = JHS ☐ 3 = Middle school ☐ 4 = Others (Please, specify)	
A9:	Your primary occupation	0 = Unemployed ☐ 1 = Farming/Fishing ☐ 2 = Trader/Business ☐ 3 = Artisan ☐ 4 = Labourer ☐ 5 = Civil Servant ☐ 6 = Other (Please specify)	
A10:	How many persons are in the household?	Total [.....] Males [.....] Females [.....]	
A11:	How many are orphaned (< 15 and have lost one or both parents)?	[.....]	
A12:	Number of persons with ages below 15 years	Total [.....] Males [.....] Females [....]	
A13:	Number of persons between ages of 15 and 65 years	Total [.....] Males [.....] Females [....]	
A14:	Number of persons with ages above 65 years	Total [.....] Males [.....] Females [.....]	
A15:	Religion of respondent	1 = Christianity ☐ 2 = Muslim ☐	

		3 = Traditional ☐ 4 = None ☐ 5 = Others (Please specify)	
A16:	Are you a Social Security and National Insurance Trust (SSNIT) contributor?	1 = Yes ☐ 0 = No ☐	

SECTION C (a): HEALTH STATUS

C1:	Do you have any form of disability?	1 = Yes ☐ 0 = No ☐	
C2:	Which of these disabilities is applicable to you?	(Multiple response) []/[]/[] [] Codes: 1= partially blind 2 = inability to walk 3 = Others (Please specify)	(Please, tick the appropriate)
C3:	Do you have any chronic illness?	1 = Yes ☐ 0 = No ☐ if no, skip to D5	
C4:	Which of these chronic illnesses is applicable to you?	(Multiple response) []/[]/[] [] Codes: 1 = Asthma 2 = Cancer 3 = Hypertension 4 = Diabetes 5 = Others (Please specify)	
C5:	Do you currently smoke cigarettes/drink alcohol?	1 = Yes ☐ 0 = No ☐ 2= Not comfortable sharing	
C6:	In general, would you say your health is?	1 = Very good ☐ 2 = Good ☐ 3 = Poor ☐ 4= Very poor ☐	
C7:	Have you fell sick or injured in the last 12 months?	1 = Yes ☐ if yes, skip to C9 0 = No ☐	
C8:	What sort of sickness/injury did you suffer?	(Multiple response) []/[]/[] [] Codes: 1 = Malaria/fever 2 = Aches and pains 3 = Respiratory 4 = Diarrhea 5 = accident 6= Cholera 7 = chicken pox/small pox/measles 8 = Others (Please, specify)	

C9:	Which of the following describe the severity of the sickness/injury?	1 = Not serious ☐ 2 = Serious ☐ 3 = Very serious ☐	
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SECTION C (b): HEALTH INSURANCE ENROLMENT STATUS

C10 a:	Have you subscribed to the NHIS?	1 = Yes (Insured) ☐ 2 = No (Uninsured) ☐ if no, skip to C21	
C10 b:	State if your NHIS card is given to you through the LEAP program	1= LEAP 2= Own self 3= Uninsured	
C11:	If yes, how long have you been enrolled?	1 = Less than a year ☐ 2 = 1-2 years ☐ 3 = 3-4 years ☐ 4 = 5+ years ☐	
C12:	Does [Name] hold a valid NHIS card?	1 = Yes (card seen) 2 = Yes (Card not seen) 3 = No	
C13:	Why did you decide to enrol onto NHIS?	Skip to Section D: NHIS ENROLMENT DECISION DETERMINANTS	
C14:	Has your NHIS card renewed since last expiry?	1 = Yes ☐ 0 = No ☐ if no, skip to C 15	
C15:	If no, why have you not renewed your membership?	(Multiple response): []/[]/[] [] Codes: 1 = Too long a process to renew ☐ 2 = Did not have money to travel to the NHIS office to renew it ☐ 3 = Healthcare services provide NHIS is poor ☐ 4 = Seek treatment elsewhere ☐ 5 = Others (Please specify)	
C16:	Have you benefitted from the scheme?	1 = Yes ☐ 0 = No ☐	
C17:	If yes to C15, what is (are) the benefit(s)?		
C18:	Did you have any difficulty in using the NHIS card when you	1 = Yes ☐ if yes, skip to C 19 0 = No ☐	

	went to the Clinic or hospital?		
C19:	If yes, what are some of the difficulties?		
C20:	Has the scheme improved your health care?	1 = Yes ☐ 0 = No ☐	
C21:	Why have you not been enrolled onto NHIS?	(Multiple response): []/[]/[]/[] Codes: 1 = Challenges during enrolment process onto NHIS ☐ 2= Have not thought about it ☐ 3= Don't need health insurance ☐ 4= NHIS does not cover all my health needs ☐ 5= Religious believes ☐ 6= It is against our cultural practices ☐ 7= Other (specify).....	
C22:	Since you are uninsured how do you pay for your medical bills (healthcare services)?	a. HH Member pays ☐ b. Relative / friend finance ☐ c. No payment ☐ d. Self-finance ☐ e. 99. Don't Know ☐	
C23:	Does the expense on your medical bills (healthcare services) have any effect on your other expenses?	1 = Yes ☐ 0 = No ☐	
C24:	How is your health status without health insurance?	1= Good ☐ 2= Normal ☐ 3= Bad ☐ 4= 99. Don't Know ☐ 5= Other, specify.....	
C25:	Will you consider joining the scheme in the future?	1 = Yes ☐ 0 = No ☐	

SECTION D: NHIS ENROLMENT DECISION DETERMINANTS

Now I would like to ask you some questions about NHIS enrolment decision. This will involve questions on what factors influence your decision to enrol onto NHIS and why

Section 2a: Theoretical Indicators		Reasons (Factors)	
D1:	(Perceived ill threat) Perceived severity of illness (HBM)	Select answers/reasons which are appropriate from those listed in the table below: a. Disease could let me lose my job and stay home forever. 1 = Yes ☐ 2 = No ☐ b. When sick, livelihood will be hard for my family members without me. 1 = Yes ☐ 2 = No ☐ c. Curing my disease will be too expensive, hence will take all my earnings 1 = Yes ☐ 2 = No ☐ d. Sickness is dangerous/evil 1 = Yes ☐ 2 = No ☐ e. Sickness will distract/retard/retrogress my activities(business) 1 = Yes ☐ 2 = No ☐	(Please, Tick the appropriate)
D2	Perceived ill threat) Perceived susceptibility of illness (HBM)	a. To prevent attracting disease 1 = Yes ☐ 2 = No ☐ b. I easily get disease 1 = Yes ☐ 2 = No ☐ c. I can be sick at any time 1 = Yes ☐ 2 = No ☐ d. To minimize disease infection 1 = Yes ☐ 2 = No ☐ e. The disease can paralyze me 1 = Yes ☐ 2 = No ☐	
D3	Perceived benefits (HBM)	a. Improve health status 1 = Yes ☐ 2 = No ☐	

		b. Could make life free from disease attacks 1 = Yes ☐ 2 = No ☐ c. For effective health treatment 1 = Yes ☐ 2 = No ☐ d. For Health protection 1 = Yes ☐ 2 = No ☐ e. No premium charges 1 = Yes ☐ 2 = No ☐ f. I cannot afford health cost 1 = Yes ☐ 2 = No ☐ g. To make full use of the LEAP benefits 1 = Yes ☐ 2 = No ☐ h. Gaining free medical counseling 1 = Yes ☐ 2 = No ☐ i. Free antenatal care 1 = Yes ☐ 2 = No ☐ j. Free post-natal care 1 = Yes ☐ 2 = No ☐ k. To supplement my expenditure 1 = Yes ☐ 2 = No ☐	
D4:	Social pressure (HBM)	a. My relatives/family pressured (forced) me to join/subscribe 1 = Yes ☐ 2 = No ☐ b. All my friends are with NHIS and are enjoying 1 = Yes ☐ 2 = No ☐ c. I learnt it is good and effective for ill treatment 1 = Yes ☐ 2 = No ☐ d. Everyone is saying it is good for people like me 1 = Yes ☐ 2 = No ☐	

D5:	Cues to action (HBM)	a. Advised to enrol 1 = Yes ☐ 2 = No ☐ b. Awareness/consciousness about improve health status 1 = Yes ☐ 2 = No ☐ c. Awareness/ consciousness about NHIS benefits 1 = Yes ☐ 2 = No ☐ d. Medical advice 1 = Yes ☐ 2 = No ☐ e. Health promotion programmes 1 = Yes ☐ 2 = No ☐ f. LEAP programme incentives 1 = Yes ☐ 2 = No ☐	
D6	Self-efficacy (HBM)	a. I think the NHIS is good to cure my disease or illness 1 = Yes ☐ 2 = No ☐ b. I am confident I will get improve health status through NHIS 1 = Yes ☐ 2 = No ☐ c. I strongly believe the NHIS is working well, hence it is effective 1 = Yes ☐ 2 = No ☐	
D7	Expected Utility (EUT) of having been enrolled insurance	a. To enjoy free healthcare services [attendance] 1 = Yes ☐ 2 = No ☐ b. For prevention of diseases or illness 1 = Yes ☐ 2 = No ☐ c. For financial protection against adverse effects medical expenses 1 = Yes ☐ 2 = No ☐ d. To avoid out of pocket healthcare expenses 1 = Yes ☐ 2 = No ☐	

		e. To improved my health status 1 = Yes ☐ 2 = No ☐ f. To get medical advice/counseling 1 = Yes ☐ 2 = No ☐ g. Desire of quality healthcare 1 = Yes ☐ 2 = No ☐	
D8	Unexpected utility	a. Could make future living standard better off 1 = Yes ☐ 2 = No ☐ b. Enjoy improved health status and long life 1 = Yes ☐ 2 = No ☐ c. My family will enjoy improved life for long 1 = Yes ☐ 2. No ☐	

SECTION E: HOUSEHOLDS' HEALTH SEEKING BEHAVIOUR - CONSUMPTION PATTERN

E1	Have your medical bills been covered by the NHIS?	1 = Yes ☐ 2 = No ☐	(Please, tick the appropriate)
E2	Do you use the money that could have been used to finance your healthcare expenses/bills for other expenses/activities?	1 = Yes ☐ 2 = No ☐	
E3	If Yes, how has it impacted on your other expenses or activities?	1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ 4 = Fluctuate ☐ 99 = Don't Know ☐	
Food consumption and non-medical products pattern			
E4	How often did the household have problems in satisfying	1= Never ☐ 2= Sometimes ☐ 3 = Always ☐	

	the food needs?	4 = Seldom ☐ 99 = Don't Know ☐	
E5	<i>Has the household experienced any food shortages over the past 12 months?</i>	1 = Yes ☐ 2 = No ☐	
E6	<i>If yes, what were the main reason(s) for these food shortages?</i>	(Multiple response) []/[]/[] [] Codes: 1 = Decline in own farm production because of pests and diseases, soil degradation or low quality of agricultural inputs used ☐ 2 = Lack of funds to purchase food ☐ 3 = Decline in remittances received from relatives and friends ☐ 4 = Increase of food prices ☐ 5 = Unemployment of household member(s) ☐ 6 = Increase of household expenditures due to illness/death of household member(s) ☐ 7 = Other (Please specify)	
E7	Has your household enrolment onto the NHIS (insured) affects food consumption pattern change ?	1 = Yes ☐ 2 = No ☐	
E8	If Yes , how has this affected your food consumption with regarding to;	a. Number of meals the household normally has per day 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ b. Consumption of staple foods (such as rice, flour, sorghum, potatoes, cassava, yam and plantain) 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ c. Consumption of legumes and vegetables 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐	

		d. Consumption of animal and milk products (such as meat, poultry, fish, eggs and dairy products) 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐	
E9	Has your enrolment onto the NHIS affects other non-medical products outside healthcare?	1 = Yes ☐ 2 = No ☐ 99 = Don't Know ☐	
E10	If Yes , how has this affected your consumption of other non-medical products outside healthcare with regarding to;	a. Monthly bills (Rent, water, electricity) 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ b. Purchase of work tools 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ c. Purchase of foot wear 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ d. Purchase of Cloths, cosmetics 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐	
Medical consumption pattern			
E11	Has your household enrolment onto the NHIS (insured) helped you spent totally zero money on all medical bills?	1 = Yes ☐ 2 = No ☐	
E12	If Yes , how has NHIS helped you secure effective medical treatments, regarding;	a. Healthcare facility visits 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ b. Treatment promptness 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐	

		c. Medicine/Drugs provision 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐ d. Response to treatment 1 = Increased ☐ 2 = Decreased ☐ 3 = Remained the same ☐	
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SECTION C (b): HOUSEHOLD CONSUMPTION EXPENDITURE

This section is designed to find out information to determine your socio-economic status and your households' level of non-healthcare consumption

F1:	How much did your household spend to purchase <u>Staple foods</u> from the market in the past one weeks?	<table border="1"> <thead> <tr> <th colspan="4">Staple foods</th> </tr> <tr> <th></th> <th>Item</th> <th>Quantity</th> <th>Amount (GHc)</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Maize</td> <td></td> <td></td> </tr> <tr> <td>b</td> <td>Rice</td> <td></td> <td></td> </tr> <tr> <td>c</td> <td>Cassava</td> <td></td> <td></td> </tr> <tr> <td>d</td> <td>Yam</td> <td></td> <td></td> </tr> <tr> <td>e</td> <td>Plantain</td> <td></td> <td></td> </tr> <tr> <td>f</td> <td>Sorghum</td> <td></td> <td></td> </tr> <tr> <td>g</td> <td>Others (specify)</td> <td></td> <td></td> </tr> </tbody> </table> (FA) Total Amount.....	Staple foods					Item	Quantity	Amount (GHc)	a	Maize			b	Rice			c	Cassava			d	Yam			e	Plantain			f	Sorghum			g	Others (specify)			
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c	Cassava																																						
d	Yam																																						
e	Plantain																																						
f	Sorghum																																						
g	Others (specify)																																						
F2:	How much did your household spend to purchase <u>Legumes and vegetables</u> from the market in the past one weeks?	<table border="1"> <thead> <tr> <th colspan="4">Legumes and vegetables</th> </tr> <tr> <th></th> <th>Item</th> <th>Quantity</th> <th>Amount (GHc)</th> </tr> </thead> <tbody> <tr> <td>a</td> <td>Beans</td> <td></td> <td></td> </tr> <tr> <td>b</td> <td>Groundnuts</td> <td></td> <td></td> </tr> <tr> <td>c</td> <td>Cow pea</td> <td></td> <td></td> </tr> <tr> <td>d</td> <td>Tomatoes</td> <td></td> <td></td> </tr> <tr> <td>e</td> <td>Garden eggs</td> <td></td> <td></td> </tr> <tr> <td>f</td> <td>Okro</td> <td></td> <td></td> </tr> <tr> <td>g</td> <td>Avocado pear</td> <td></td> <td></td> </tr> </tbody> </table>	Legumes and vegetables					Item	Quantity	Amount (GHc)	a	Beans			b	Groundnuts			c	Cow pea			d	Tomatoes			e	Garden eggs			f	Okro			g	Avocado pear			
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F3:	How much did your household spend to purchase <u>Animal and milk products</u> from the market in the past one weeks?	<table border="1"> <tr> <td colspan="4">Animal and milk products</td> </tr> <tr> <td></td> <td>Item</td> <td>Quantity</td> <td>Amount (GHc)</td> </tr> <tr> <td>a</td> <td>Meat</td> <td></td> <td></td> </tr> <tr> <td>b</td> <td>Poultry</td> <td></td> <td></td> </tr> <tr> <td>c</td> <td>Fish</td> <td></td> <td></td> </tr> <tr> <td>d</td> <td>Eggs</td> <td></td> <td></td> </tr> <tr> <td>e</td> <td>Dairy Products (milk)</td> <td></td> <td></td> </tr> <tr> <td>f</td> <td>Others (specify)</td> <td></td> <td></td> </tr> </table>			Animal and milk products					Item	Quantity	Amount (GHc)	a	Meat			b	Poultry			c	Fish			d	Eggs			e	Dairy Products (milk)			f	Others (specify)		
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f	Others (specify)																																			
		(FC) Total Amount.....																																		
F4:	How often and how much do the household spend on the following items?	<table border="1"> <tr> <td></td> <td>Items</td> <td>Period</td> <td>Amount (GHc)</td> </tr> <tr> <td>a</td> <td>Rent</td> <td rowspan="9"> 1= Weekly ☐ 2= Monthly ☐ 3= Bi monthly ☐ 4= Quarterly ☐ 5= Annually ☐ </td> <td></td> </tr> <tr> <td>b</td> <td>Water</td> <td></td> </tr> <tr> <td>c</td> <td>Electricity</td> <td></td> </tr> <tr> <td>d</td> <td>Cooking fuel</td> <td></td> </tr> <tr> <td>e</td> <td>Clothing (cloths, cosmetics)</td> <td></td> </tr> <tr> <td>f</td> <td>Foot wear</td> <td></td> </tr> <tr> <td>g</td> <td>Work tools (hoes, cutlass)</td> <td></td> </tr> <tr> <td>h</td> <td>Medical care and health expenses</td> <td></td> </tr> <tr> <td>i</td> <td>Educational expenses (e.g.</td> <td></td> </tr> </table>				Items	Period	Amount (GHc)	a	Rent	1= Weekly ☐ 2= Monthly ☐ 3= Bi monthly ☐ 4= Quarterly ☐ 5= Annually ☐		b	Water		c	Electricity		d	Cooking fuel		e	Clothing (cloths, cosmetics)		f	Foot wear		g	Work tools (hoes, cutlass)		h	Medical care and health expenses		i	Educational expenses (e.g.	
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	transport cost, pocket money etc.)										
j	Other expenses (Specify)										
		(FD) Total Amount.....									
F5a:	From the expenses of (FA) + (FB) + (FC) + (FD), how much is the total of expenses of the household?	GHc									
F5b:	What is the total income of the household during the last month?	GHc									

SECTION F: HOUSEHOLDS' HEALTHCARE USE AND OUT-OF-POCKET HEALTH CARE EXPENDITURES

Now I want us to talk about your healthcare use and out of pocket health expenditure (OOPHE) in your household.

SECTION F (a): HOUSEHOLDS' HEALTHCARE USE

G1	Do you have health facility in your community?	1 = Yes ☐ 0 = No ☐	
G2	<i>If no, which community /Town do you seek healthcare services?</i>	[.....]	
G3	Which of the following health facilities do you visit to seek healthcare?	(Multiple response) []/[]/[] [] Codes: 1 = Government hospital 2 = Private/Mission hospital 3 = Traditional Herbalist 4 = Pharmacy 5 = Others (Please specify) 11 = None of the above	
G4	During the last 12 months, has [Name] consulted any health care facility?	1= Yes ☐ if yes, skip to G5 0 = No ☐	

G5	Which health care service did you visited?	1 = Government hospital 2 = Private/Mission hospital 3 = Herbal hospital 4 = Pharmacy 5= Chemical seller 6=Others 11= None of the above	(Please, Tick the appropriate)
G6	If Yes E4, what was the reason for the most recent visit?	1. Illness, 2. Injury, 3. Follow-up, 4. Check-up, 5. Prenatal care, 6. Postnatal care, 7. Vaccination, 8. Other (specify	(Please, Tick the appropriate)
G7:	How many days did it take before you seek healthcare service?	Specify Number of.....	
G7a	How many times did you consult the health care provider in the last 12 months?	Specify Number..... 1=Not at all 2=1-3 times 3=4-6 times 4=Above 6 times	
G8:	How many times has [Name] used NHIS card during the last 12 months?	Specify Number of times	
G9:	How much did [Name] pay to travel and return?	GH cedis and pesewas.....	
G10:	How much time did it take to travel to and from the facility? (TRAVEL TIME)	1= Hours 2= Minutes	

SECTION F (b): OUT-OF-POCKET HEALTH EXPENDITURE (OOPHE)

G11:	Does NHIS cover up all your medical bills whenever you attend the health facility to receive less than 24 hours' treatment services? (Outpatient)	1= Yes (Extra monies paid) ☐ 2= No (No extra monies paid) ☐ if no, skip to G13, G14 3 = Not applicable.	
G12:	Does NHIS cover all your medical bills whenever you visit health facility to spend over nights' treatment services? (Inpatient)	1= Yes (Extra charges paid) ☐ 2 = No (No extra charges paid) ☐ if no, skip to G14, G16 and G19 3 = Not applicable	
G12a	If no to G 11 and G12 do you pay extra monies for healthcare services though you hold valid NHIS card?	1= Yes ☐ if yes, skip to G13, G15 and G19 2= No ☐ 3= Not applicable	
G13:	Did you purchase any medicine or medical supplies when consult the healthcare provider?	1= Yes ☐ if yes, skip to G14 and G17 0 = No 3 = Not applicable	
G14:	How much did you pay altogether for these medicine/medical supplies?	GH cedis and pesewas.....	
G15:	Did [Name] pay for any lab test, x-ray when consult the healthcare provider?	1=Yes ☐ 0= No ☐	
G16:	How much did you pay altogether for the lab test, x-ray?	GH cedis and pesewas.....	
G17:	During visit to the healthcare facility due to illness or injury, were you hospitalized ?	1= Yes ☐ 0= No ☐	
G18:	If yes, how many days where you hospitalized ?	Number of days.....	
G19:	What is the total cost of hospitalization ?	GH cedis and pesewas.....	
G20:	Total medical expenses over the last 12 months (If cannot, give breakdown)	GH cedis and pesewas.....	

G21:	Did you have sufficient cash to pay for the bill?	1 = Yes ☐ if yes, skip to G23 0 = No ☐	
G22	If “no” to G23 , how did you manage to pay the bill?	(Multiple response) [☐]/[☐]/[☐]/[☐] Codes: 1 = Borrowed money from friends and relatives ☐ 2 = Took money from “SuSu” collectors ☐ 3 = Sold personal property ☐ 4 = Others (Please specify) ☐	
G23	Please, if you are to compare yourself with others in your community would you consider yourself as an averagely rich, poor or extremely poor?	1 = Averagely rich ☐ 2 = Poor ☐ 3 = Extremely Poor ☐	(Please, Tick the appropriate)
G24	Does the expenditure you make on health takes greater portion of your income?	1= Yes ☐ 0= No ☐	
G25	How does this extra amount of money you spend on your healthcare services affect your other expenditure?	a. Purchase of Food and other household goods 1= Increased ☐ 2 = Decreased ☐ 3= Remained the same ☐ b. Purchase of clothes and foot wear 1= Increased ☐ 2= Decreased ☐ 3= Remained the same ☐ c. Payment of monthly bills (Rent, water, electricity) 1= Increased ☐ 2= Decreased ☐ 3= Remained the same ☐ d. Meeting other household needs 1= Increased ☐ 2= Decreased ☐ 3= Remained the same ☐ e. Meeting other personal needs 1= Increased ☐ 2= Decreased ☐ 3= Remained the same ☐	

SECTION G: MEASURING THE EFFECTS OF OUT-OF-POCKET HEALTH EXPENDITURES

I1	Has it forced you to sell personal property?	1 = Yes ☐ 2 = No ☐	(Please, Tick the appropriate)
I2	Has it forced you to redraw or stop any family member from schooling?	1 = Yes ☐ 2 = No ☐	
I3	Has it forced you to cut down food consumption and purchase of other goods?	1 = Yes ☐ 2 = No ☐	
I4	Has it forced the household to limit visits to healthcare facility when illness or injury occurs?	1 = Yes ☐ 2 = No ☐	
I5	Has it forced your household to default?	1 = Yes ☐ 2 = No ☐	
I6	Has it curtailed your household from saving some of your earnings?	1 = Yes ☐ 2 = No ☐	
I7	Has it brought to your household an increased cost burden of medical bills?	1 = Yes ☐ 2 = No ☐	
I8	Has it forced your household to borrow money or an item?	1 = Yes ☐ 2 = No ☐	

II: Interview Guide for Focus Group Discussants

UNIVERSITY OF GHANA, LEGON BUSINESS SCHOOL GUIDELINE FOR FOCUS GROUP DISCUSSANTS

The researcher is a PhD candidate of the University of Ghana Business School, Legon who intends to conduct a cross-sectional descriptive study and research on the topic **Healthcare and consumption effect of health insurance enrolment among poorest households in selected districts**. This **Interview Guide** is designed to help solicit information from you on the topic in Shai Osudoku District in the Greater Accra Region and Amansie West District in the Ashanti Region to assist in achieving the objective one (1) of the study, which sought to examine the applicability of the existing theories on NHIS enrolment decision in the context of Ghana.

In the case of Ghana, the National Health Insurance Scheme (NHIS) remains the financing tool for providing equitable access to and financial coverage for basic healthcare services to all citizens, especially the poor and vulnerable, through the establishment of an affordable healthcare financing arrangement. NHIS has become a critical component in poverty reduction and it remains a key element of any effort to reduce social inequities and ensure the fundamental right to health. Hence, enrolment of poorest households on NHIS enables them to reduce their OOPHE which in effect helps to smoothening their consumption and improve other related health outcomes. Nevertheless, NHIS enrolment rate among them remains low despite being exempted from premiums and generous benefits. Therefore, the current study is being conducted to explore the factors that influence NHIS enrolment decisions and analyse the effect of NHIS membership on other health related outcomes - *healthcare use; OOPHE; and consumption between insured and uninsured poorest household heads*.

In view of the above, you have been identified as one of the few LEAP beneficiaries, your candid opinion and contribution should help me in identifying the reasons of the factors that change/influence the household's enrolment decisions which will lead to the formulation and right recommendations for further research, advocacy, practice and policy. You are assured of confidentiality and anonymity in the information provided.

DISCUSSIONS GUIDE

Specific Research Objective: *Examine the applicability of the existing theories on NHIS enrolment in the context of Ghana.*

1. Guided by suppositions from the Expected Utility

- a. *Risks and uncertainty of the health expenditure*

Questions to ask

- i. What are the expectations of your household enrolment onto the NHIS? Did you think about how it may help you avoid financial risk in the future?
- ii. How do you envisage the NHIS to increase or decrease your household risk?
- iii. Please describe why you think NHIS increases or decreases your household risk?

2. Guided by supposition from the State-Dependent Utility Theory (SDUT)

- a. *Low income, poverty and unemployment level*

Questions to ask

- i. Looking at your current health or socio-economic status, will your household decide to enrol onto NHIS?

3. Guided by constructs from the Health Belief Model

- a. *Perceived severity of the illness or injury;*
- b. *Perceived susceptibility of falling ill or injury;*
- c. *Perceived benefits in deciding to enroll onto NHIS such as financial protection against illness or injuries;*
- d. *Perceived barriers in deciding to enroll onto NHIS such as transport cost, time wasted, inconveniences in enrolling onto the scheme, upsetting behaviours of the service providers.*
- e. *Cues to action such as the media engagements, health education on NHIS, NHIS advertisement, parental advice, experiences from insured and uninsured individuals could motivate or trigger behavioural to enroll onto NHIS;*
- f. *Self-efficacy such as individual household's self-confidence could influence the decision to enrol onto NHIS.*

Perceived susceptibility for falling sick or getting injury

i. What are the main reasons your household decided to enroll on the NHIS? (Ask participants to enumerate the important reasons). There are likely many reasons but try to think about the most important reasons.

Allow the participants to discuss the most important issues and then ask about the following if they have not already been mentioned:

- Illness in the household? (e.g. Chronic diseases)
- Need for frequent health care due to medical condition? (E.g. Chronic illness, pregnancy, operation)?
- Need for frequent health care due to small children?
- Need for frequent health care due elderly family members?
- Pregnancy?
- NHIS is a better financial tool for illness or injury than paying out of pocket at the time of care?
- Financial protection against unexpected illness
- Experience high healthcare expenditure?

ii. Who took the final decision to enrol your household onto the NHIS? Was it a decision by the household head, any other household member or a joint decision?

Perceived severity for illness or injury

i. Can you please explain why your households enrol onto NHIS? Is it because of severity for illness or injury?

ii. What are some of the consequences of failing to enrol onto NHIS?

Perceived benefits in deciding to enroll onto NHIS

i. What are some of the benefits why your household decide to enrol onto NHIS?

ii. What are the potential positive results of deciding to enrol onto NHIS?

Perceived barriers in deciding to enroll onto NHIS

i. What are some of the material costs related to deciding to enroll onto NHIS? By this I mean cost of transport, time taken away from work or other duties etc.

Cues to action & Self-efficacy deciding to enroll onto NHIS

i. If we were to send your household SMS text messages, what are the kinds of messages that would help them and their relatives understand more about making decision to enrol onto NHIS? When should these messages be sent? What time of day? How frequently?

ii. Apart from just sending messages, what are the other things that can be done to decide to enrol onto NHIS?

That was my last question. Do you have any other issues you would like to comment on that were not discussed? If not, then I would say thank you for being part of this group discussion.

Materials and supplies for focus group discussion

- Sign-in sheet
- Consent forms (one copy for participants, one copy for the team)
- Evaluation sheets, one for each participant
- Name Cards
- Pads & Pencils for each participant
- Focus Group Discussion Guide for Facilitator
- 1 recording device
- Notebook for note-taking
- Refreshments

Participants of the (4) Focus Group Discussions (FGDs) in each district

District	Community	Grouping number	NHIS status
Shai Osudoku / Amansie West	1.	7 All male	Insured
	2.	7 All female	
	3.	7 All male	Uninsured
	4.	7 All female	

III: Interview Guide for Participants of the Key Informant Interviews (KII)

UNIVERSITY OF GHANA, LEGON

BUSINESS SCHOOL

GUIDELINE FOR PARTICIPANTS OF KEY INFORMANT INTERVIEWS

The researcher is a PhD candidate of the University of Ghana Business School, Legon who intends to conduct a cross-sectional descriptive study and research on the topic **Healthcare and consumption effect of health insurance enrolment among poorest households in selected districts**. This **Interview Guide** is designed to seek your views and perspectives on the topic in Shai Osudoku and Amansie West Districts to assist in achieving the objective one (1) of the study, which sought to examine the applicability of the existing theories on NHIS enrolment decision in the context of Ghana.

In the case of Ghana, the National Health Insurance Scheme (NHIS) remains the financing tool for providing equitable access to and financial coverage for basic healthcare services to all citizens, especially the poor and vulnerable, through the establishment of an affordable healthcare financing arrangement. NHIS has become a critical component in poverty reduction and it remains a key element of any effort to reduce social inequities and ensure the fundamental right to health. Hence, enrolment of poorest households on NHIS enables them to reduce their OOPHE which in effect helps to smoothening their consumption and improve other related health outcomes. Nevertheless, NHIS enrolment rate among them remains low despite being exempted from premiums and generous benefits. Therefore, the current study is being conducted to explore the factors that influence NHIS enrolment decisions and analyse the effect of NHIS membership on other health related outcomes - *healthcare use; OOPHE; and consumption between insured and uninsured poorest household heads*.

In view of the above, you have been identified as one of the key officer, your candid opinion and contribution should help me in identifying the reasons of the factors that change/influence the household's enrolment decisions which will lead to the formulation and right recommendations for further research, advocacy, practice and policy. You are assured of confidentiality and anonymity in the information provided.

- a) Name of Health Care Unit.....
- b) Type of facility.....
- c) District.....
- d) Region.....
- e) Date of Interview... ..
- f) Title of person interviewed.....

INTERVIEWS GUIDE

Specific Research Objective: *Examine the applicability of the existing theories on NHIS enrolment decision in the context of Ghana.*

1. Guided by suppositions from the Expected Utility

- a. *Risks and uncertainty of the health expenditure*

Questions to ask

- i. In your opinion what factors do you think influence households' enrolment onto the NHIS? Did you think NHIS will help them to avoid financial risk in the future?
- ii. How do you envisage the NHIS to increase or decrease household risk?

2. Guided by supposition from the State-Dependent Utility Theory (SDUT)

- a. *Low income, poverty and unemployment level*

Questions to ask

- i. Looking at the current health or socio-economic status of the households, do you think is the reason why they decide to enrol onto NHIS?

3. Guided by constructs from the Health Belief Model

- a. *Perceived severity of the illness or injury;*
- b. *Perceived susceptibility of falling ill or injury;*
- c. *Perceived benefits in deciding to enroll onto NHIS such as financial protection against illness or injuries;*
- d. *Perceived barriers in deciding to enroll onto NHIS such as transport cost, time wasted, inconveniences in enrolling onto the scheme, upsetting behaviours of the service providers.*

- e. *Cues to action such as the media engagements, health education on NHIS, NHIS advertisement, parental advice, experiences from insured and uninsured individuals could motivate or trigger behavioural to enroll onto NHIS;*
- f. *Self-efficacy such as individual household's self-confidence could influence the decision to enrol onto NHIS*

Perceived susceptibility for falling sick or getting injury

- i. In your candid opinion what are the main reasons why a household member decided to enroll on the NHIS? There are likely many reasons but try to think about the most important reasons.
- ii. With your engagement with the households' members, who do you think took the final decision when it comes to enrolment onto the NHIS? Was it a decision by the household head, any other household member or a joint decision?

Perceived severity for illness or injury

- i. Can you please explain why households enrol onto NHIS? Is it because of severity for illness or injury?
- ii. What are some of the consequences households face for failing to enrol onto NHIS?

Perceived benefits in deciding to enroll onto NHIS

- i. What are some of the benefits households' gain when they decided to enrol onto NHIS?
- ii. What are the potential positive results of deciding to enrol onto NHIS?

Perceived barriers in deciding to enroll onto NHIS

- i. What are some of the costs related to households deciding to enroll onto NHIS? By this I mean cost of transport, time taken away from work or other duties etc.

Cues to action & Self-efficacy deciding to enroll onto NHIS

- i. If we were to send SMS text messages to households, what are the kinds of messages that would help them and their relatives understand more about making decision to enrol onto NHIS? When do you suggest these messages should be sent? What time of day? How frequently?
- ii. Apart from just sending messages, in your view what are the other things that can be done to decide to enrol onto NHIS?

That was my last question. Do you have any other issues you would like to comment on that were not discussed? If not, then I would say thank you for being part of this interviews.

Materials and supplies for focus group discussion

- Sign-in sheet
- Consent forms (one copy for participants, one copy for the team)
- Notebook for note-taking

Participants of the Key Informant Interviews (KIIs) in each district.

Subject	Frequency
District NHIS Officials	2
District Director of Social Welfare	1
District Directors of Community Development	1
District Health Director	1
Total	5

APPENDIX 4- DISTRIBUTION OF SAMPLE SIZE**Table AP4- 1 in Appendix 4 Distribution of Sample size – Shai Osudoku District**

	District	Community name	Total household number	Sample size
1	Shai Osudoku	(MUEYOS) TEYE KWAME	15	5
2	Shai Osudoku	MUETER	22	7
3	Shai Osudoku	NYAPIENYA	20	6
4	Shai Osudoku	TSUMKPO	27	9
5	Shai Osudoku	ABUVIEKPONG	17	6
6	Shai Osudoku	GOZA-KOPE/DUNYO-KOPE	20	6
7	Shai Osudoku	ADAAM NO.2	25	8
8	Shai Osudoku	ADAAM NO 1/OBOOM/KPEGLO KOPE/SOLUKPEYE/MOKOMESTAME	28	9
9	Shai Osudoku	KORDIABE	18	6
10	Shai Osudoku	ASEBI	28	9
11	Shai Osudoku	AYENYA/AYIKUMA	23	7
12	Shai Osudoku	ATROBINYA	33	11
13	Shai Osudoku	SOTA	36	12
14	Shai Osudoku	DORYUMU*	48	15
15	Shai Osudoku	AGORTOR*	40	13
16	Shai Osudoku	WEDOKUM*	16	5
17	Shai Osudoku	OSUWEM*	34	11
18	Shai Osudoku	DODOWA*	159	51
19	Shai Osudoku	AGOMEDA*	60	19

20	Shai Osudoku	AYIKUMA*	136	44
21	Shai Osudoku	ODUMSE*	41	13
22	Shai Osudoku	APPEKOR*	40	13
			886	285

Source: Author's Construct, 2017 with information from LMU

Table AP4- 2 in Appendix 4 District Distribution of Sample size – Amansie West District

	District	Community name	Total household number	Sample size
1	Amansie West	NKAASU	25	8
2	Amansie West	NIPANKYEREMIA*	84	27
3	Amansie West	AMANSIE NYAMEBEKYERE*	36	11
4	Amansie West	PAKYI NO.6*	18	6
5	Amansie West	PAKYI NO.7 DOMEABRA*	58	18
6	Amansie West	SUBINSO-EDUBIASO*	97	31
7	Amansie West	MOSIKROM*	19	6
8	Amansie West	DOMI BEPOSO*	53	17
9	Amansie West	FAWOTIRIKYE*	35	11
10	Amansie West	GYEDUAKO*	57	18
11	Amansie West	AFEDIE*	85	27
12	Amansie West	MANSO ABUOSO*	74	23
13	Amansie West	OFFINHO- KWANKYEABO*	22	7
14	Amansie West	FAHIAKOBO*	41	13
15	Amansie West	DAWUSASO- GYEGYETRESO*	50	16
16	Amansie West	ABIRAM*	82	26
17	Amansie West	ADIMPOSO	70	22
18	Amansie West	JUMAKRO	10	3
19	Amansie West	WONNIPANINADUE	15	5
			930	295

Source: Author's Construct, 2017 with information from LMU