



# **MASTER'S PROGRAMME IN URBAN MANAGEMENT AND DEVELOPMENT**

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Analysing the Impact of National Health Insurance Scheme  
(NHIS) On Accessibility of Health Care in Ayigya,  
Kumasi, Ghana  
(Final Thesis)

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## **Executive Summary**

The health sector of many of the developing countries failed to address to the health care needs of poor and vulnerable groups of people. As morbidity and mortality rates increased tremendously, the plight of poor and marginal groups of people simmered unheard. In light of the above challenges a number of developing countries saw national health insurance as a way forward to make health care accessible to all, because most developed countries managed to expand health service and provide affordable health care through a national health insurance system. The Ghanaian population has been bearing the brunt of structural adjustment that adheres cutting expenditures on social services and introducing a “cash and carry” system that requires on spot payment for health care received at point of delivery. As a result health services became accessible only to those who could afford the high cost of care, while the majority of Ghanaians resorted to traditional healers or faced financial catastrophe to cover the cost of health care. To address the health care needs of the majority Ghanaians, National Health Insurance Scheme (NHIS) was introduced in 2005.

The literature review discussed concepts of national health insurance scheme. Developing and developed countries experiences in implementing national health insurance scheme has been reviewed. A predominantly tax financed health care system exists in developed countries, due to the fact that a high proportion of this countries population is employed in the formal sector. While, many of the developing countries due to high informality in their economies make use of a multi source financing such as the premium contribution of health insurance subscribers, taxation and donor funding. The Ghanaian NHIS adopted the German model of solidarity and decentralization to set up the system at the initial stage. The German National Health Insurance advocates for universal health coverage, portability of insurance and participation by physicians. However, in its approach towards financing the scheme, the Ghanaian NHIS is unique in the continent, because it relies principally in the internal resource of the country, unlike many developing countries where a greater proportion of the health sector is financed through donor fund.

The research is an explanatory impact evaluation geared to analyse the impact of National Health Insurance Scheme (NHIS) in Ayigya, a sub-burb of Kumasi in Ghana. A joint survey has been conducted in 180 households initially to gather socio-economic data about the population. A total of 50 insured and non-insured individuals were randomly selected in order to analyse whether the introduction of NHIS improved the communities ability to access health care and provide financial protection against catastrophic payment. An in depth expert interview has been conducted simultaneously as well, with District Mutual Health Insurance Scheme officers and KNUST hospital personnel.

The introduction of NHIS improved access to health care, patient attendance at health facilities shot up. The health facilities were over whelmed by the sudden spike in attendance. Measures have been taken to expand services and recruit additional health workers. However, there is a big mismatch between the demand for health care and available supply particularly in the outpatient department

despite the strides to expand health service. The insured are protected from catastrophic payment compared to the non-insured who struggle to access health care due to high cost of inpatient and outpatient care. The majority of insured received health care free of charge for inpatient care than outpatient care. In terms of out of pocket at a lower range of expenditure both the insured and non-insured spent equivalent amount of money for outpatient care, however as the amount of expenditure rises only the non-insured tend to have a higher spending for the cost of drugs.

A high proportion of the Ayigian community are enrolled in the national health insurance scheme, among those non-insured the majority are indigent group of people who can't afford the health insurance premium and elderly who can't travel to the registration offices due to old age. The premium setting and indigent identification procedure and guideline has many weaknesses that creates loopholes in the system. Poor people are overcharged, while the principle of cross subsidization is not adhered as the result, the rich are not contributing proportional to their income as envisioned in the NHIS act. The majority of the insured believe the NHIS has improved access to health care. However, physical inaccessibility of health care in terms of overcrowded health facilities and financial barriers due to high out of pocket payment for outpatient care remain issues for improvement.

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## **LIST OF ABBREVIATIONS**

ABVR	Academy of Architecture and Urban Design
CBHS	Community Based Health Programme Scheme
CHPS	Community Health Planning and Services
DMHIS	District Mutual Health Insurance scheme
DP	Development Partners
GoG	The Government of Ghana
G-DRG	Ghana Diagnosis Related Group
ITN	Insecticide Treated Nets
IHS	Institute of Housing & Urban Development Studies
KNUST	Kwame Nkrumah University of Science and Technology
MoH	Ministry of Health
MoH	Ministry of Health
MIS	Management Information System
NHIS	National Health Insurance Scheme
NPRS	National Poverty Reduction Strategy
NHIS	National Health Insurance Scheme
NHIC	National Health Insurance Scheme
NHIF	National Health Insurance Fund
OECD	Organization for Economic Cooperation and Development
SSNIT	Social Security National Insurance Trust
SSA	Sub-Saharan Africa

<b>Table of Content</b>	<b>Pages</b>
Executive Summary.....	vi
Acknowledgement .....	vi
List of Abbreviation.....	vi
List of Tables.....	vi
List of Figures.....	vi
List of Charts.....	vi
<b>CHAPTER 1:</b>	
1.1 Background.....	1
1.2 Problem Statement.....	4
1.3 Research Objective.....	4
1.4 Research Question.....	5
1.5 Research Sub-question.....	5
1.6 Significance of the Research.....	5
1.7 Thesis Structure.....	5
<b>Chapter 2: Literature Review</b>	
2.1 Introduction.....	7
2.2 National Health System.....	7
2.2.1 Health Service Delivery Objective.....	7
2.2.2 Defining the concept of National Health Insurance.....	8
2.3 National Health Care Financing.....	9
2.4 Accessibility of Health Care to the Poor.....	11
2.4.1 National Health Insurance Lessons from Middle.....	13
Income and Developing Countries	
2.5 Informal Sector National Health Insurance coverage.....	15
2.5.1 Identification Method of the Poor.....	15
2.6 The National Health Insurance Policy in Ghana.....	18
2.7 Concussion.....	22
<b>Chapter 3: Research Design and Methodology</b>	
3.1 Introduction.....	24
3.2 Overview of Ghana atelier.....	24
3.3 Area of Study.....	24
3.4 Data Collection.....	24
3.5 Data Analysis.....	26
3.6 Reliability and validity.....	26
3.7 Time Schedule.....	27

3.8 Variables and Indicators.....	27
<b>Chapter 4: Findings and Analysis</b>	
4.1 Introduction.....	30
4.2 Registration Status of NHIS.....	30
4.3 Factors that Influence Registration under NHIS.....	33
4.3.1 Educational level of insured and non-insured.....	33
4.3.2 Age and Health Condition of Insured.....	33
4.4 Major Barriers to Accessibility of Health Care in Ayigya.....	35
4.4.1 Perception of Insured and Non-insured on treatment of health Workers.....	36
4.4.2 Comparative Analysis of out of pocket expenditure to health Care by insured and non-insured.....	37
4.4.2.1 Inpatient Care Cost.....	37
4.4.2.2 Outpatient Care Cost.....	38
4.5 Affordability of Health Care Among Insured and Non-Insured.....	39
4.5.1 Forgone care among Insured and Non-Insured.....	39
4.5.2 Health Insurance Premium Contribution.....	40
4.5.2.1 Perception of Insured and Non-insured on existence of Indigent people for exemption.....	41
4.6 Improvement of Access to Health Care Through NHIS.....	41
4.6.1 Perception of Insured on the National Health Insurance Scheme.....	42
4.7 National Health Insurance Premium and Identification of the Indigent.....	44
4.7.1 Formal sector registration in NHIS.....	45
4.7.2 District Mutual Health Insurance Scheme Officers In-depth Interview.....	46
4.8 Role of Health Facilities After the Introduction of National Health Insurance Scheme.....	49
4.8.1 Profile of KNUST Hospital.....	49
4.8.2 The Role of KNUST hospitals after the introduction of NHIS.....	51
4.8.2.1 Community Based Health Care Activities.....	53
4.9 The Ratification Process and Financing Mechanism of National Health Insurance Scheme.....	53
4.9.1 The National Health Insurance Financing Scheme.....	54
<b>Chapter 5: Recommendation and Conclusion.....</b>	<b>57</b>
5.1 Conclusion.....	57
5.2 Recommendation.....	60
<b>References.....</b>	<b>61</b>
<b>Annexes.....</b>	<b>64</b>

## List of Tables

Table 1.2: Status of health indicators .....	2
Table 3.2 : Variables and indicators.....	29
Table 4.1: Status of NHIS registration in Ghana.....	30
Table 4.1.2 Status of NHIS registration in Asokwa DMHIS.....	32
Table 4.4.2.1 Existence of individuals for exemption.....	41
Table 4.6 Premium contribution.....	45

## List of Figures

Figure 2.1 Organizational chart of Ghanaian health system.....	8
Figure 2.2 Ghanaian Health Expenditure and Service per unit capital.....	11
Figure 2.3 Conceptual framework.....	17
Figure 2.4 NHIS management and organizational chart.....	20
Figure 3.1 Map of Ayigya.....	25
Figure 4.11 NHIS financing flow.....	55

## List of Chart

Chart 4.2.1 Educational level of insured and non-insured.....	33
Chart 4.2.2 Insured and Non-insured age distribution.....	34
Chart 4.2.3 Health condition of insured and non-insured.....	34
Chart 4.3 Obstacles in receiving health care in Ayigya.....	35
Chart 4.3.1 Insured & non-insured perception on waiting time.....	36
Chart 4.3.2 Insured and non-insured perception on treatment of care.....	36
Chart 4.3.2.1 Inpatient health care expenditure.....	38
Chart 4.3.2.2 Outpatient health care expenditure.....	38
Chart 4.4 Perception on affordability of health care.....	39
Chart 4.4.1 Forgone health care by insured and non-insured.....	39
Chart 4.4.2 Percentile of health insurance premium contribution.....	40
Chart 4.5 Perception of insured on improvement of access to health care.....	41
Chart 4.5.1 Reasons for not registering under NHIS.....	42
Chart 4.5.2 Non-insured priorities to register in NHIS.....	43



## **List of Annexes**

Annex 1: Individual Questionnaire .....	63
Annex 2 : Indepth Interview.....	68
Annex 3: Joint Questionnaire.....	71



## Chapter 1: Introduction

### 1.1 Background

Ghana formerly known as the gold coast is an English speaking West African country, bordered by Burkina Faso to the North, Cote d'Ivoire to the west, Togo to the East and the Gulf of Guinea and the Atlantic Ocean to the south (Boateng and Paulina 2009). Ghana has a population of approximately 20 million distributed across 10 administrative regions and 138 districts. It is estimated that 40% of the population are under the age of 15 and 55% of the total population live in rural areas. The Ashanti region which is the target area of this research is the most populous with over 3.6 million inhabitants living in 21 districts. On the contrary the northern region has the greatest landmass 70,384 km<sup>2</sup> but only has about half of Ashanti region's population (Asante and Zwi 2009).

Ghana was the first country in Africa to achieve its independence from British colonial rule in 1957. The country experienced a series of turbulent situations and coups since its independence until a democratically elected government finally came to power in 1992 (McIntyre 2005). Following its independence



Ghanaians were able to seek free medical attention at any government health facility with no financial cost to the individual. However, hospital fees were introduced in 1969; the government under the pressure of International Monetary Fund (IMF) and World Bank adopted a Structural Adjustment Program (SAP) with an objective of reducing government expenditure to the minimum level. In 1985 the 'cash and carry' system was introduced in which individuals seeking health care to pay health care fees at point of delivery. Government expenditure on health was reduced from 10% of the national budget in 1982 to 1.3% in 1997 (Wahab 2008)

Source: Map 1. IUN cartographic section 2010

During the 'cash and carry' system, the majority of Ghanaians could not afford to pay the high cost of medical care as a result access and utilization of health services deteriorated. Many households stopped getting treatment from government health facilities and relied on traditional healers and self-treatment from drug vendors (Wahab 2008, Oppong 2001 cited by Mensah et al 2009). In response to the failed government health care facilities, Community Based Health Programme Schemes (CBHS) were initiated to address the Ghanaian people's health care needs. The Community Based Health Programme Schemes (CBHS) brought some changes in ante-natal care, supervised delivery etc. Despite some improvements in health care delivery by CBHS, physical and financial barriers to health care remained unresolved to the majority of Ghanaians (McIntyre 2005). In addition, the so-called 'brain drain' has seriously impacted Ghana's health system as the loss of expert health personnel undermined health care delivery. Between 1993 and 2000 a staggering 68.2% of all medical officers left Ghana for developed countries. In 2005, 50% of all highly skilled labor

whom 90% were health professionals migrated to developed countries (Global health institute 2009).

Indicator	Value	Year
Adult mortality rate (between 15 to 65 years per 1000 population)	331	2006
Deaths due to tuberculosis among HIV negative per 1000 population	41	2006
Death due to HIV per 1000 population	131	2005
Life expectancy at birth (years)	57.0	2006
Antiretroviral coverage among people with advanced HIV (%)	12	2006
Antiretroviral therapy coverage among HIV-infected pregnant women for PMTCT (%)	8	2006
Children aged < 5 sleeping under insecticide-treated net (%)	21.8	2006
Birth attended by skilled health personnel (%)	50	2006
Population with sustainable drinking water source Rural (%)	71	2006
Population with sustainable drinking water source Urban (%)	90	2006
Population with sustainable drinking water source Total (%)	80	2006
Registration coverage of death (%)	<25	2006
Life expectancy at birth(Years)	60	2008
Infant mortality rate (per 1000 live births)	76	2008
Under-five mortality rate (per 1,000)	120	2008
Maternal mortality ratio (per 100,000 live births)	560	2008
HIV prevalence rate (% ages 15-49)	1.40	2008

*Table 1.2 Source: (WHO Database 2008) )Status of health indicators 2005-2006*

Health care accessibility is one of the basic human rights. It is increasingly being considered as integral to any poverty reduction strategy. While, the basic objectives of poverty reduction remains as a central concern; there has been a shift of focus away from poverty reduction per se to social risk management accepted by all governments all over the world (Jutting 2003). Improved health condition leads to an increase in productivity, educational performance, higher life expectancy saving, investment, decreased debt and expenditure on health care. This would result to greater equity, economic return, social and political stability (kaseje 2006).

The origins of insurance go back many years, whereby members of a community helping those who suffered loss in some form or another. People would be prepared to help their neighbors who face difficulties; because they believe their families could similarly be aided by others when they require such help (Vondee 2007). After years of neglect in favor of vertical health programmes, community based small and large scale projects and donor

directed thematic health investments, which form one strong National Health Insurance systems are again seen by policy makers and donors as essential to achieving sustainable gains. This has been in part stimulated by the Millennium Development Goals that call for the achievement of several health targets, simultaneously by 2015, difficult if not impossible to achieve without functioning health system (Freedman & Kruk 2007).

Financial catastrophe occurs when individuals incur tremendous fraction of their resources to pay for health care (Liu, Rao, Knaul et al, 2006; Wagstaff & Van Doorslaer 2003; Xu et al 2003 cited by Somkotra & Lagrada 2007). This financial burden can threaten the living standard of poor people in the short and long term. In the short term the current consumption of other goods and services must be sacrificed, in the long term assets must be shifted which leads to depleted saving and debt accumulation, that can drive many families in to poverty or sink them even further in to poverty (Liu, Rao, Knaul et al, 2006; Wagstaff & Van Doorslaer 2003; Xu et al 2003 cited by Somkotra & Lagrada 2007).

One of the great advantages of health insurance is it reduces households' vulnerability against the financial difficulty of out of pocket expenses resulting from catastrophic illness (See Sepehri et al 2009 and Wagstaff 2007). The Ministry of Health (MoH) of Ghana faces many challenges, every year 3.5 million Ghanaians are infected with malaria, level of infant mortality and maternal mortality plus HIV/AIDS remains high (Zimmermann & Drechsler 2007)

The benefit of National Health Insurance is it raises pool of funds to pay for health care cost of large group of people. In addition it is a way of securing the provision of services. Some of the advantages of a national health insurance are: Administratively contributions are easy to collect at least for formal sector employees, contributions are paid willingly by individual members as long as they receive identifiable personal gains and benefits, the nature of national health insurance contribution is redistributive from the better off to the poor, contribution of income is predictable in the short term, differing with the level of unemployment, inflation and economic growth in the long run (Abel-Smith 1992). Strong economy is not a pre-requisite to start NHIS, given the low cost for personnel, additional employer's contribution to NHIS is not a big hurdle in the global economy. The positive impact of NHIS includes stabilizing income fluctuations, reduce impoverishment that in turn has a positive spill over impact which allows higher risk taking and more entrepreneurial spirit contributing to a healthy workforce which is the backbone for economic progress (Obermann 2006).

In 2003 the government of Ghana established a National Health Insurance Scheme (NHIS) to improve the health care access for all Ghanaians and eliminate the "cash and carry" system; the law became effective in 2005 (Mensah et al 2009). Wehab (2008) mentioned that the NHIS is a rare example from Ghana's recent history where by a political party (New Patriotic Party) came to power in December 2000 election. Promising the Ghanaian electorate that a win for the party means the abolishing of 'cash and carry' system and a comprehensive health insurance fulfilling a major campaign promise. The NHIS coverage rate in 2005 include, 12% formal sector workers, 16% informal sector workers, 20% indigents, 7% elderly (70 years and above) 1% pensioners and 44% dependents under 18 years old. The indigent group of people, elderly who are above the age of 70 and children where their parents are members of the NHIS are exempted from paying premium contribution. The scheme is financed through 2.5% formal sector workers Social Security National Insurance Trust (SSNIT) contribution, 2.5 VAT levy and donor fund and contribution of the informal sector workers. By the middle of 2007, around 47% of the total Ghanaian population had been

registered under the NHIS. Those who opt not to join the NHIS continue to use public and mission health facilities by paying user fees (McIntyre 2005, Mensah et al 2009).

The benefit package for NHIS includes: general out-patient and inpatient services, oral health, eye care, emergencies and maternal care, including prenatal care, normal delivery, and some complicated deliveries. Diseases covered include malaria, diarrhoea, upper respiratory tract infections, skin diseases, hypertension, asthma, diabetes in all about 95% of the common health problems in Ghana are covered (Ghana Ministry of Health, 2004a and 2004b cited by Mensah 2009).

The National Health Insurance Scheme (NHIS) became effective in 2005. Five years after the implementation of the law this research paper evaluates the performance of NHIS. The research envisages to analyze the impact of NHIS in improving the accessibility of health care and financial protection from catastrophic spending in the area of study taking a comparative analysis of insured and non-insured. In addition, it will analyze the challenges poor people encounter in accessing proper quality health care.

## **1.2 Problem Statement**

Access to health care and to enjoy a healthy life is a fundamental human right declared in the constitutions of many countries. The implementation of 'cash and carry' system in Ghana for almost two decades made life unbearable and health care unaffordable, prohibiting the majority of Ghanaians, especially the poor from seeking proper health care at health facilities. As a result health indicators such as under five mortality rate sky rocketed mainly due to lack of protection from preventable diseases. Maternal mortality rate begun to rise as well, particularly the situation was much worse in rural areas than urban areas mainly due to lack of antenatal, delivery and postnatal care. The 2003 Ghana Demographic and Health Survey reported lack of improvement in child survival and development in Ghana. In 1993 Infant mortality was 66 per 1000 live births, while under five mortality was reported 119 per 1000 live births in the same year. The survey even reported an increase in infant mortality rates (IMR) from 57 per 1000 live births in 1998 to 64 per 1000 live births in 2003 and under five mortality rising from 108 to 111 over the same period (MoH 2005). Underweight children 21% in urban, 33% in rural and maternal mortality 220/100,000 (Heyen-Perschon 2005).

In light of the above mentioned challenges the National Health Insurance Scheme (NHIS) has been implemented in Ayigya in the metropolis of Kumasi since 2005. Little research has been done so far to evaluate the NHIS or some of the researches that have been done in the previous years were too early to assess whether the implementation of NHIS has brought improvement in the health condition of the poor people. Therefore, it was crucial to undertake the research in order to analyze the impact of National Health Insurance Scheme (NHIS) on Physical, Social and Financial accessibility of health care to the poor people.

## **1.3 Research Objective**

The research has the objective of evaluating the impact of the National Health Insurance Scheme (NHIS) in improving accessibility of health care and financial protection from catastrophic spending in Ayigya, a suburb of Kumasi in Ghana. To accomplish the objective the researcher will:-

- Identify the impact of National Health Insurance Scheme in the study area.
- Investigate the major challenges facing poor people in accessing NHIS.
- Find out whether the NHIS policy improved the health condition of the insured poor people compared to the non-insured.

- Discuss the financial sustainability of NHIS.

#### **1.4 Research Question**

How does the implementation of National Health Insurance Scheme (NHIS) impacted the accessibility of health care and provided financial protection against catastrophic health care payment to the poor people in Ayigya a suburb of Kumasi in Ghana?

#### **1.5 Research Sub-Question**

To address the main question four sub-questions were developed:-

- What are the major barriers to Physical, Social and Financial accessibility of proper health care in Ayigya, subsequent to the introduction of the National Health Insurance Scheme (NHIS)?
- What are the various methods put in place to identify the indigent group of people in determining premium exemption and setting a minimum level of premium payment to the poor at the District Mutual Health Insurance Scheme (DMHIS)?
- What is the role of the government health facilities such as hospitals in providing efficient and qualitative health care to the population of Ayigya?
- What are the various financing mechanisms put in place to ensure the sustainability of the National Health Insurance Scheme (NHIS)?

#### **1.6 Significance of the research**

The research will have a great significance in enriching the existing knowledge about National Health Insurance and providing a new insight about the performance of the Ghanaian National Health Insurance Scheme. Particularly, the research will have an added benefit to researchers, academicians, health economists and professionals from different disciplines interested in undertaking a further research on National Health Insurance. In order, to gain a valuable experience and draw valuable lessons from the Ghanaian experience in implementing the health insurance scheme that could be applied in other developing countries health sector.

#### **1.7 Thesis Structure**

**Chapter one:** Provides background of the Ghanaian health system and the rationale for the introduction of National Health Insurance Scheme (NHIS). The chapter also includes Problem statement, Research Objective, Research Question, Research sub-question and Significance of the research and outline of the thesis structure.

**Chapter two:** Provides an overview of National Health System in developing and developed countries. This chapter discusses the experience of different countries in implementing National Health Insurance as well as the challenges and lessons that can be drawn in terms of financing the health insurance scheme, identifying and targeting poor households. Finally, the chapter outlines the Ghanaian National Health Insurance Scheme (NHIS).

**Chapter three:** Outlines the research methodology, particularly emphasizing on overview of the Ghana atelier, research area of the study, method of data collection, plan for interpreting results, expected outcome of the research, time schedule as well as variables and indicators of the research.

**Chapter four:** This section discusses the status of NHIS implementation. The chapter provides findings of the field work household surveys and in-depth interviews in terms of the context of the research questions and theories discussed in the literature review.

**Chapter Five:** Finally this chapter based on the theoretical discussion and analysis of the research findings will provide conclusion and recommendations geared towards improving the performance of the Ghanaian NHIS.



## **Chapter 2: Literature Review/theory**

### **2.1 Introduction**

The literature review is organized in to three parts. The first section discusses the National Health System, Health Service delivery objectives in Ghana and various definitions used to explain health insurance scheme particularly National Health Insurance. The second section discusses about National Health Insurance scheme financing practices around the globe with special emphasis in developing countries zooming further in to Ghana. The third section focuses on aspects of National Health Insurance accessibility for poor households and lessons from low and middle income countries that have introduced National Health Insurance recently. The fourth section examines the challenges in identifying the informal sector workers for National Health Insurance Schemes coverage as well as the challenges in identifying the poor and most vulnerable groups for premium setting and exemption. The final section provides an overview of the Ghanaian National Health Insurance scheme (NHIS).

### **2.2 National Health System**

There is no single definition of what might encompass a national health system. According to WHO (2000), it constitutes all activities whose primary purpose is to restore and maintain health, improve the health condition of the population they serve responding to people's expectations and providing financial protection against the cost of ill health''(WHO 2000:pp.5-8).White (2001) mentioned that National Health Care comprises two key elements; first the government sponsors the provision of health care. Secondly it foresees guaranteeing quality health care to all citizens at reasonable cost. In Many developing countries the state has not been able to satisfy the health needs of its poor people.A smaller budget allocation for health care services, inefficient delivery of public health service, poor quality of health care and the imposition of user fee charges are some of the signs of some Nations inability to cater the needs of their poor population (Ahuja and Jutting 2003). The notion that poor people are too poor to contribute for their health care needs has been questioned in the past few years and now there is a growing consensus that even the poor can make small incremental contributions towards meeting their health care needs (Zeller and Sharma 1998 cited by Ahuja and Jutting 2003). As a result innovative ways of addressing disparity in health care by means of introducing National Health Insurance Schemes (NHIS) are in the process of undergoing vigorous efforts to extend coverage to the formal and informal sectors, plus the most vulnerable group of people in low income countries (See Ahuja and Jutting 2003, Wagstaff 2007, Sauerborn and Barnighausen 2002).

#### **2.2.1 Health Service Delivery Objectives in Ghana**

Health is increasingly being viewed not only as an "end" in itself but also as a crucial "input" in to a nation's development process.Indeed, a positive link between health and economic growth is widely established particularly for low income countries (Ahuja and Jutting 2003).

The government of Ghana defined a set of core 'Top ten diseases' that need to be tackled as a priority specifically concentrating in the poor areas in collaboration with health care providers and Community Based Health, Planning and Services (CHPS).Those diseases include: HIV/AIDS, Malaria, Tuberculosis, Guinea Worm, Poliomyelitis, Maternal and Child Health, Accidents and Emergencies, non-communicable disease (heart disease, cancer, asthma, diabetes, allergies),Oral health and eye care, Specialist services including psychiatric care (Heyen-Perschon, 2005).Given the important role traditional healers play in Ghanaian society the government regulates the activities of traditional and alternative medicine

practitioners. At the same time the government has developed a national guideline to benefit from safe herbal medicine. Heyen-Perschon (2005) further outlined that the strategic objectives of the Ghanaian policy framework of the national health care system focuses to improve access and equity to essential health care and ensure that the health sector plays a crucial role in the National Poverty Reduction Strategy (NPRS). The strategic objectives are:-

- **Improving geographic access** - to primary services and emergency services by putting in place community based health points in the rural areas and establishment of community based health planning and service (CHPS) zones country wide.
- **Improving financial access** - for the financially vulnerable especially the indigent and poor group of people who cannot afford the health insurance premium.
- **Improving socio-cultural access** - for priority groups (children, women, elderly, disabled people with chronic disease). For instance exempting the elderly and the children of insured members from premium payment. Inclusion of maternal care as well as caesarean delivery in the health insurance package is one way of addressing the priority payment (Heyen–Perschon 2005). However, the Ghanaian NHIS unlike other countries national health insurance system such as the Philippine (Phil health) doesn't have special provision for disabled group of people.

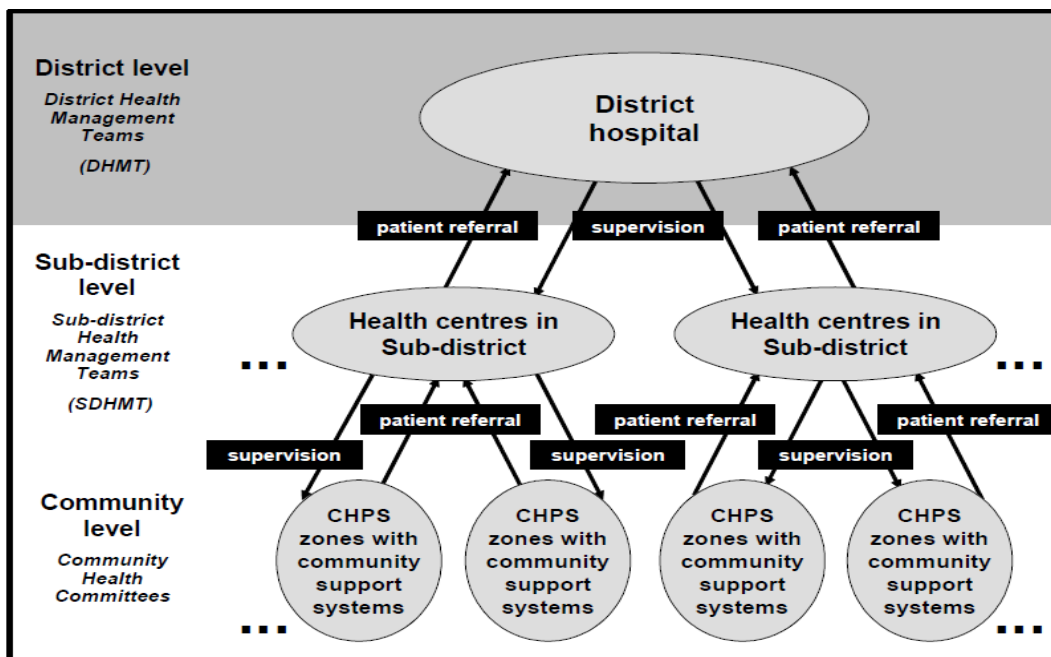


Fig 2.1 Heyen-Perschon, 2005

The above graph shows the structure of the health facilities including all community health posts (CHPS). A health post is located in one village, covering at least 5-10 surrounding villages. The community health officers are usually supported by a nurses, midwives and volunteers.

### 2.2.2 Defining the Concept of National Health Insurance

Health insurance is a government sponsored mechanism for spreading the risks of incurring health care costs over a group of individuals with the aim of making health care accessible to all citizens regardless of their social income/status. The contributions from households are usually based on income where as government contribution is financed from general taxes (Arhin-Tenkorang 2001, Carrin 2002). Similarly, Edoh & Brenya (2002) defined health

insurance as a bargain in which individuals exposed to a risky condition contribute money to a pool of risk sharing in a form of premium payment, where by the insured person could access a more affordable health care during time of need. One of the notion for the introduction of national health insurance is the unacceptable excessive out of pocket catastrophic payment. In this regard Sepehri et al (2009) outlined that through enrollment in national health insurance, households could be protected against the burden of out of pocket payment and prevented from impoverishment. Furthermore, he stressed that in order for the health insurance system to achieve the desired goals, financial and non-financial barriers to health care should be alleviated. There is a clear similarity in the various definitions applied by various authors. National health insurance is defined by Vondee (2007) and Endsor (2008) as a mechanism for sharing of risks among large group of people in a society to cover large portion of cost of treatment which is effective during time of illness and injury with a potential impact deterring serious financial catastrophic problems in accessing health care.

Germany has the world's oldest National Health Insurance System system as a result it tends to attract more analysis to draw experience and learn lessons for countries which are in the process of embracing health insurance as a means of providing qualitative, equitable and efficient health care. However, unlike other countries health care systems such as UK, the development of the German health insurance was a gradual and long process (Sauerborn and Barnighausen 2002). Whether such development can be applied in developing countries depends on a number of variables.

In many of the developed countries the delivery of health care system is undertaken by governments and other bodies in a structured manner. For instance in Canada each province acts as health insurer to its population under the country's health act. In Germany individuals are insured through one of the many sickness funds and public law bodies. In Japan citizens are insured by employee corporations or local government, in Sweden county governments insure citizens. In Australia hospitals are operated by provincial governments, however citizens are insured by central government. In the Netherlands the basic package is covered by the health insurance act, the catastrophic package is covered by the compulsory exceptional medical expenses act for all citizens (Neiburg 2001, Pannarunothai et al 1997). Nevertheless, the majority of the above mentioned nations including the Organization for Economic Cooperation and Development (OECD) countries have been undergoing reforms in their health care system to meet the increasing demand for improved quality of health care. One of the biggest advantages of the developed countries is their ability to collect revenue from taxation which accounts to more than 30% of their GDP as opposed to 5% only in developing countries (Ensor 2008).

It should be noted that, the national health insurance schemes in developed countries are far from perfect. The scope of benefit packages varies from country to country. In most of the above mentioned developed countries basic hospital and physician services are always covered. However, outpatient pharmaceutical, are not part of the benefit package. Abortion is covered by some countries (e.g Canada) but not others. In Japan and France the basic insurance requires that individuals make a contribution of 20-30 percent of charges for many services at the point of health service use (Neiburg 2001).

### **2.3 National Health Care Financing**

Health care financing provides the resources and economic incentive for the operation of health systems and is a key determinant of health system performance in terms of equity, efficiency, and qualitative service. Resource allocation and health care financing is one of the most pressing issues in the health sector. The need for effective and efficient system of resource allocation in health care arises not only from the scarcity of funds but also from

inequitable health care access. The poor and the minority groups receive limited health care where as the rich receive better quality health care services (Asante and Zwi 2009). Catastrophic payments for health care pushes 100 million people in the world in to poverty every year. While, another 150 million people face economic hardship globally as a big slice of their income is spent to cover their health care costs (WHO 2005).

The World Health Organization (WHO 2004) report outlined that more than 80% of total health expenditure in India is private. Most of the money flows from poor households as out of pocket payment to private for profit health care providers. The richest portion of the population is six times more likely to receive health care in the public or in private sector. While, the largest poor population often becomes indebted or impoverished trying to pay out of pocket for health care. For instance it is estimated that at least 24% of all Indians hospitalized fall below the poverty line (Mahal et al 2000 cited by Ranson 2006). In Malawi the cost of malaria to households was more than 7% of their income, however for the poorest households it accounts a third of their income (Ettling et al 1994 cited by McIntyre and Gilson 2005). A study done in the US showed that households headed by older people, people with disabilities, the unemployed or poor people were more likely to be affected than other households. In Georgia approximately 19% of households had to borrow money or sell assets, while 16% were unable to afford the medications prescribed. In Thailand, the poor are more likely to pay more for health services out of pocket than richer people compared to the proportion of disposable income of those two groups (Xu et al 2003 cited by Somokotra & Lagrada 2008).

There is growing evidence that health care costs especially in developing countries can push households in to economic hardship and poverty. Assets that are critical for household's survival such as land and livestock could be sold. In Africa borrowing from family members and friends to cover health care costs is common, though some receive loans free of interest rate others who lack close family ties to borrow from had to pay a hefty amount of interest rate in getting a loan which induces a heavy damage to their survival (McIntyre and Gilson 2005).

The two principal functions of health care financing are revenue collection where by the national health system receives funds and pools resources in which revenue is managed to ensure that all citizens have equal access to health care through the risk sharing with other members of the pool (Goodwin 2008, Abekah-Nkrumah et al 2009). Though, providing equitable health care is an objective pursued by governments across the globe, developed and developing countries finance their national health care through different means. A typical example is Sweden where by the predominant funding mechanism is through progressive taxation whereas in most developing countries user fee is the main source of financing health care. For instance, revenue from taxation accounts less than 10% in African countries and donor funding constitutes more than 25% of the health financing in three quarters of the continent (McIntyre & Gilson 2006, Goodwin 2008).

Financing health care has been one of the formidable policy issues facing the Ghanaian government. Most Ghanaians cannot afford medical care due to increasing high cost of health care. Health service whether preventive or curative requires large amount of expenditure and a robust sustainable pool of resources (Brenya and Edoh 2002). The Government of Ghana (GoG) is the major source of fund to the ministry of health (MoH) with about 45% of total funds available to the sector (MOH 2005 cited by Abekah-Nkrumah et al 2009). In addition, the health sector receives a significant amount of funds from Development Partners (DPs) and donors which accounts about 13.8 % of the total health sector budget (Abekah-Nkrumah et al 2009).

Ghana faces the challenge of dealing with high prevalence of communicable and preventable diseases, under-nutrition and poor level of reproductive health. In addition other health threatening diseases such as obesity, diabetes, cancers, hypertension and cardiovascular are increasingly becoming common as well as a major health challenge (Abekah-Nkrumah et al 2009). Despite the increased spending in health care in Ghana nearly by 30% of the budget of the Ghanaian Ministry of Health (MoH) from the previous years. As seen in fig.2 below from 2001-2003 the health expenditure capital on health services increased consistently. However, the service unit per capital which is the increase in output of health indicators per expenditure capital grew far modestly (Heyen-Perschon 2005).

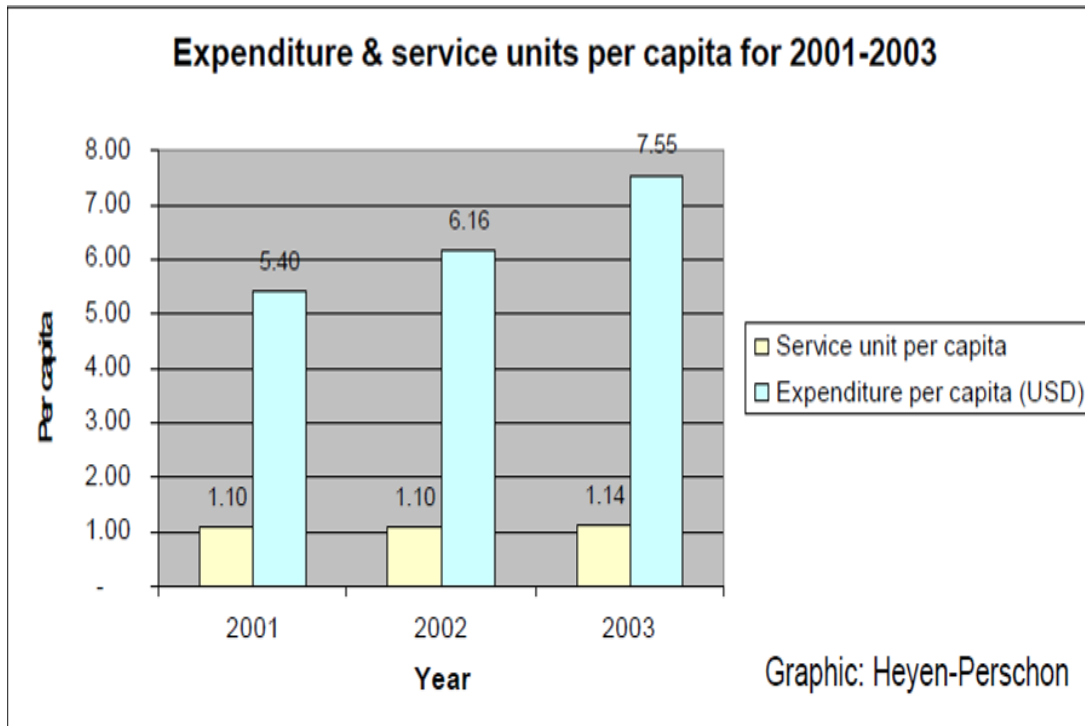


Figure: 2.2 Heyen -Perschon, 2005

In Ghana in 2003 government and donor funding constituted less than 32% of the total health care expenditure, while the remaining 68% was attributed to out of pockets payment (McIntyre 2005). This clearly shows that the Ghanaian people especially the poor had been taking the brunt of economic hardship as a big slice of their household income was spend on health care payment. Nevertheless, in terms of health care financing the country is not without external support. The central government allocated 17% of its annual budget in 2006 to health sector exceeding international targets under Abuja declaration which is 15%. “Around 19 official aid agencies, over 400 non-government organizations, as well as several international firms and foundations are active in the health sector. So, are many hands making light work, or are too many cooks spoiling the broth?” (Zimmermann & Drechsler 2007 pp.1).

#### 2.4 Accessibility of Health Care to the Poor

People’s health is a crucial livelihood asset, when the poor becomes sick or injured their entire household can be in danger of losing its household income. As poor people usually have limited source of income to prevent them from impoverishment (Dong et al 2005, Jutting 2003), millions of people die prematurely each year globally especially in poor countries due to easily preventable diseases. Each year the world is losing more than 11 million children due to poor access to preventive health care. In the least developed countries

health spending constitutes about US\$ 11 per person a year which is below the WHO minimum estimate of US\$ 30 – US\$ 40 per person for essential intervention. In comparison developed countries spend more than US\$ 1,900 per person annually (Gwatkin et al 2000 cited by Kaseje 2006, Carr 2004). More than 2.3 million people mainly in developing countries die from eight vaccine preventable diseases annually. The poor versus rich health gap is caused mainly by small number of illnesses that severely affect those in developing countries including: HIV/AIDS, malaria, tuberculosis, maternal and perinatal conditions; childhood diseases such as measles, tetanus, diphtheria, acute respiratory infection and diarrhoea, malnutrition and tobacco related diseases (Carr 2004). Carr (2004) further reiterated that the deadliest diseases that affect the poor attract relatively little research and development spending. This type of spending is largely driven by market forces and those involved in such lucrative business deals don't see any incentive in terms of profit by investing on medicines that predominantly affects the global poor. Shockingly infectious and parasitic disease constituted more than half of the deaths in developing countries in 2001, as opposed to only 2% of deaths in Europe.

Financial risk protection arrangements are inadequate for very large segment of poor population in low income countries (WHO 2000). A cross country analysis found out that annually over 35% of households in low income countries face catastrophic health expenditure (Ranson 2006). Castro-Lean (2000) mentioned that poor households are less likely to report illness than better off, because poor people accept illness as a normal part of life and don't consider it an event worth reporting. Lower reporting occurs due to the feeling of helplessness and their inability to access health care.

The majority of African population does not have access to modern health facilities and another 40% have no access to safe drinking water and sanitation. Africa though it represents only 10% of the global population accounts for 63% of individuals living with HIV/AIDS and 90% of malaria infections worldwide (Kaseje 2006). As it is continuously mentioned out of pocket payment is the major means of accessing health care in most of the African countries.

Curative health expenditure is not usually pursued to address poor people's need in Africa. Even the allocation of funds across the health sector is not in favor of the poor. For instance in Cote d'Ivoire the share of health spending for primary care dropped from 35% in 1991 to 32% in 1995, in Madagascar approximately 90% of the illnesses could be prevented at primary level given the government allocates adequate fund. In Ghana an outpatient visit is one tenth of the cost of an inpatient visit, while in Guinea the ratio accounts 1:7. Hence, it is safer to say one way of targeting poor people in developing countries should be more funding in primary health care than hospitals (Castro-Leal et al 2000).

Apart from financial barrier, lack of physical accessibility to health facilities is a major stumbling block which prohibits the poor from seeking health care. The poor had to travel long distances or they had to rely on local traditional healers. For instance, a study done in South Africa revealed that the poor travel on average 2 hours to access medical attention compared to 30 minutes for those who are better off. Many governments give little attention to primary health care in rural areas, where as the majority of the poor live and spend a great proportion of the health budget in urban hospitals (Carr 2004).

Access to health care in Ghana is low and there is a big disparity between the rural and urban areas. For instance 79% of births in urban areas are supervised by medical practitioner as opposed to only 33% in rural areas. Up to 70% of the rural poor needs to travel more than 30 minutes to the nearby health facility. There is a huge regional gap in Ghana in terms of quality and extent of health services. The regions with the lowest level of health care

provision and hence the greatest problems in public health are Upper west, Upper east, Northern and Central, of which the central region is exceptionally in the southern part of the country (Heyen-Perschon 2005). In Ghana even those who manage to reach the health facilities paying high transportation cost have to wait long queues, at times spending the whole day at the health facilities to receive medical treatment. This results in a loss of productive time and income. The high patient doctor ratio coupled with shortage of health workers prevents patients from receiving proper attention and quality care. For instance in 2002 alone, 70 physicians, 214 nurses and 77 pharmacists migrated from Ghana to other developed countries exacerbating further the delivery of proper health care services (Salizu and Prinz 2009).

In developing countries government spending directed towards curative health care are poorly targeted to poor households and it favors those who are better off. The poor access the curative care services at a higher cost. Although a big portion of government resources is invested on specialized care, the main causes of illness and death in many developing countries are preventable at primary health care level. In most African countries unit cost data are limited with little disaggregation by type of facility, hence unit subsidies were generally calculated at national level. The unit costs are categorized in general as visits to health centers and visits to hospitals. The WHO (2000) report outlined that no distinction was made between outpatient and inpatient visits; this was practical in few countries such as South Africa, Ghana and Guinea. The report further mentioned that in Africa curative health spending is not appropriately targeted to those who most need it. The poorest 20% of the population received less than 20% of the subsidy. Governments allocate significant share of their health budget in hospitals, which the poor generally do not use.

There is a regional disparity in terms of allocation of funds, for instance spending per visit to primary health care facility in Accra was six times more than other regions. In addition two-thirds of the health budget was spent on hospital services of this a major slice of the pie goes to one large teaching hospital in Accra. South Africa allocates 89% of its health budget to hospitals. While Kenya and Madagascar spent 50% of their budget to hospitals (Castro-Leal et al 2000). To some extent spending on hospital based care can be justified at the expense of equity, because of lack of insurance market in many developing countries which doesn't allow poor households to receive expensive medical treatment at a cheaper price and the fact that most hospitals train medical personnel requiring high budget allocation

#### **2.4.1 National Health Insurance Implementation in Middle and Low Income Nations**

Universal coverage means different things to different people in various countries. Some countries adopt an egalitarian approach by providing a comprehensive benefit package that applies to the poor and wealthy with limited exclusion list. Some countries introduced two packages supported by different source of funding such as basic package and catastrophic health benefit as extra (Pannarunothai et al 1997). Equity, efficiency and quality of health system are the main health objectives cited to be achieved by the National Health Insurance Schemes of many countries.

The Philippines National Health system (Phil health) was formed first in 1995 as a successor to the Medicare program with the aim of achieving universal health coverage by 2010. The coverage reaches so far around 70% of the total population out of which 65% are formal sector employees (43% private and 22% government). Basically, the membership structure include a) Formal sector contribution b) Individuals outside the formal sector contribution c) Retirees who are exempted d) Indigents where by the government covers the contribution (Obermann et al 2006). The fixed annual premium is relatively cheap to self employed professionals. However, it is expensive for farmers and other workers employed in the

informal sector who register and pay premium contributions in Phil health through membership in community based health organizations which are incorporated as part of Phil health. To what extent Phil health is reaching out to the marginalized and informal sector workers is a critical issue that should be addressed by policy makers in Philippines. On the positive note the informal sector in Philippines compared to Ghana is a small proportion; hence it is assumed that the majority of Phil health members are covered either directly or indirectly as legal dependants of the principal member. For instance spouses and all children below 21 years of age, physically and mentally disabled members of the principal family are covered by the health insurance.

The Kenyan National Health Insurance system was launched in 1966 making it one of the oldest health insurance scheme in Sub-Saharan Africa (SSA). The schemes targeted at its inception the formal sector, where revenue is collected through a payroll tax paid only by employees. It has later expanded to include coverage to the informal sector. The National Health Insurance coverage remains low consisting only 25% of the population. Resources are skewed in favor of the better off. It is estimated that private hospitals, nursing and maternity homes accounted for 26% of the approved health facilities, yet receive 58% of the national health insurance fund (DFID 2002). The Tanzanian NHIS is compulsory to cover all public sector employees. Community health fund schemes were introduced as part of the health insurance scheme to make health care affordable and available to the informal sector and rural dwellers. Eventhough, a number of reasons are mentioned for the low enrollment rate, a low user fee at the health facilities is cited as the main one. The government plans to increase the number of people accessing health insurance to 45% by 2015 (Mtei and Mulligan 2007).

The Korean Health Insurance Scheme provides 100% admission and outpatient coverage for indigent which consists of 4% of the total Korean population. The Korean Health Insurance is financed through payroll deductions (3.4% salary), the employer paying half of the money, people who are self employed or unemployed pay flat rate. The insurance covers 80% of hospital admission costs and 45% of outpatient costs (Lee 2003). Taiwan is one of the countries in the world with a low neonatal and infant mortality rates. This remarkable achievement was primarily due to its fast growing economy; higher education and the successful implementation of public health programs. Some of the coverage under the Taiwan NHI includes outpatient care, dental care, prescription drugs etc. Although, co-payments were adopted, the NHI has imposed ceilings on co-payments to prevent the public from incurring catastrophic expenses. Beneficiaries requiring long term and highly expensive treatment due to illness or injury are exempted from any co-payment obligation (Chen et al 2007).

The health care system in Thailand is focused mainly in public sector, access to care for pregnant and postpartum women; care is directed at promoting maternal and child health care. The government introduced a lower flat rate to 30% of its citizens who are not enrolled in National Health Insurance. As the result there is low neonatal and maternal deaths in Thailand. Korea has one National Health Insurance country wide in which the system heavily depends on the private sector. The health insurance in Korea provides insurance coverage for 100% of the population and it is treatment oriented than health promotion oriented. Korea needs to invest and focus more on health promotion in public facilities to reduce the high neonatal, maternal mortality and morbidity rate. On the same note, the Thailand Health Insurance Scheme must include the coverage of screening for cancer of the breast and cervix in order to reduce the high number deaths of Thai women (Chung et al 2003).

It is critical to realize that the way forward to achieving universal health coverage is not always rosy. For instance in Philippines lack of health facilities is apparent to low utilization



of Medicare especially to the poor people (physical barrier) with 65% coverage of Phil Health comprises only 9% of total health care expenditure. In some rural areas Phil Health expenditure accounts to 2% only. There is no price regulation, private providers adjust their price cost margins to insured patients in order to maximize their profit once they find out a patient is a Phil Health member (Obermann et al 2006). This leaves the patient with limited financial risk protection as the health providers' higher fees will counter weight the support by Phil Health. Another problem evident in Phil health is lobbying to include certain additional health care coverage not based on the need of the society rather due to lobbying of medical organizations or special interest groups

## **2.5 Informal Sector National Health Insurance Coverage**

The role informal sector plays for economic growth has not been given the recognition it deserves. There is a general tendency that the formal sector is the engine of economic growth than the informal sector. However, the formal sector in developing countries couldn't supply enough jobs to the majority of the population, yet the informal sector provides a means of survival to a large number of households.

The informal sector in Ghana includes subsistence agriculture, non-agriculture household activity, etc. Individuals, engaged in these sectors work as employees, employers, or a self employed basis largely using apprenticeships. Despite, the relatively higher poverty level in the informal sector than formal sector, more than 70% of household incomes are generated from the informal sector. Out of these only 2.6% come from wage employment, the remaining are agriculture and self employment incomes (Asenso-Okyere 1997).

Identifying and effectively targeting vulnerable groups is a formidable challenge facing many developing countries. Even though, national health insurance schemes are being introduced in many developing countries there is a big disparity between the rich and the poor in terms of accessing equitable health care. Even in healthy developed countries such as Netherlands, UK, Finland, the poor die five to ten years earlier than the rich. There is a huge difference in life expectancy in the US by place of residence and socio-economic disparities. In developing countries constrained health budget and poor financing of health insurance makes it difficult to cover the poor identification cost (Carr 2004, Jehu-Appiah et al 2010). The large size of the informal sector in those countries makes it even harder in assessing income and living standards. This raises the issue of exclusion of the poorest of the poor from directly benefiting from government financed health insurance schemes and poses a feasibility concern and trade-offs between equity and efficiency (Jehu -Appiah 2010).

Currently the National Health Insurance Scheme (NHIS) coverage is estimated to be 41-45% of the Ghanaian population. The informal sector accounts about 70% of the total working force in Ghana, however only 22% of the informal sector workers are enrolled in the NHIS (Wahab 2009, Global health leadership institute 2009). Between 25 to 30 percent of Ghanaians who depend for their livelihood in the informal sector are poor, making them the second largest group of poor after subsistence farmers (Salizu and Prinz 2009).

### **2.5.1 Methods for the Identification of the Poor**

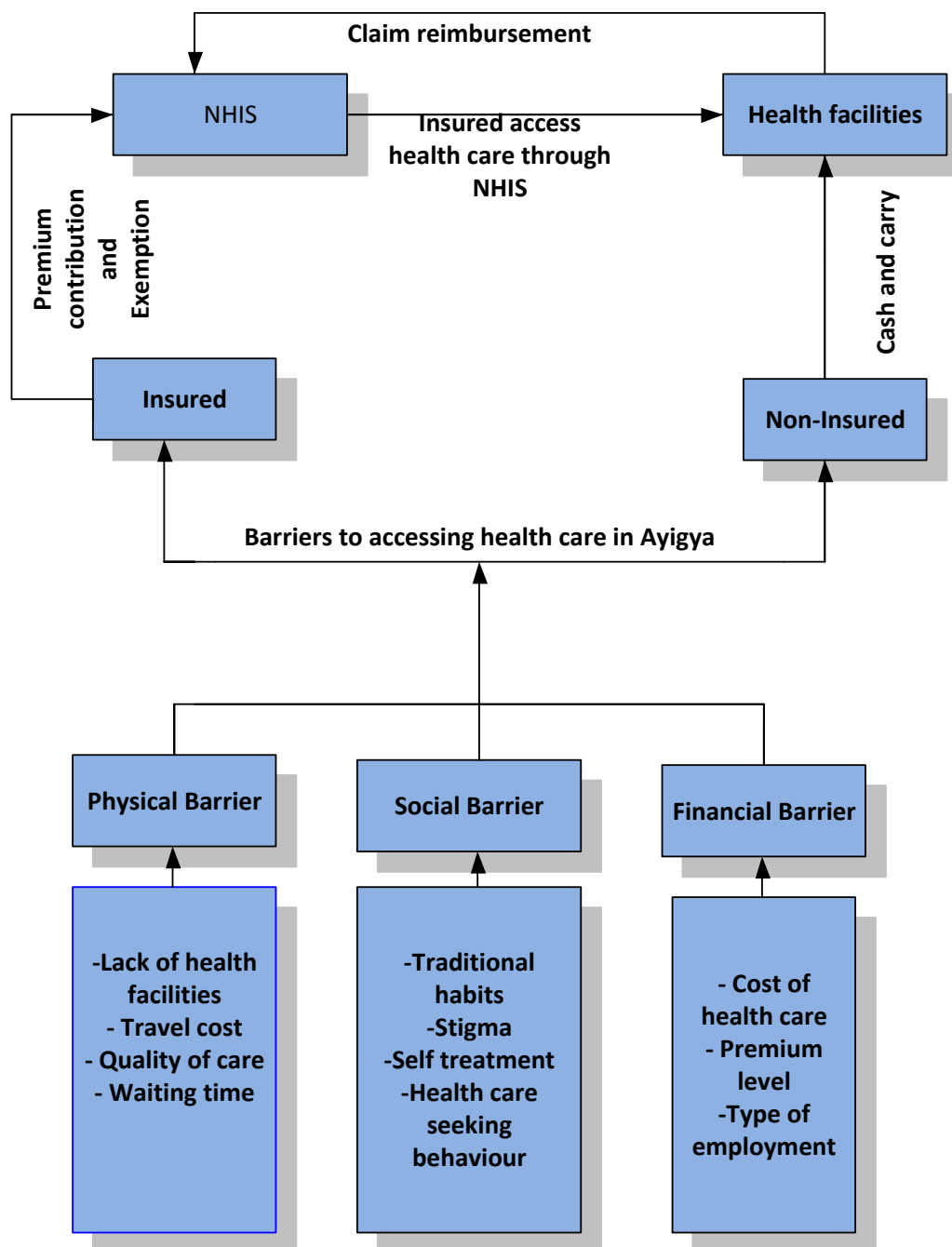
One of the main premise in introducing National Health Insurance is to address the health care needs of poor and vulnerable groups of people. In order to meet the health care needs of the mentioned group of people, appropriate identification procedure and guideline needs to be laid out. A failure in applying a correct method of identifying poor people directly affects negatively the performance of the system in provision of equitable health services to all. Not as easy as it sounds, the techniques applied to properly target poor people should be tailored to the specific fabric of the society. In most instances reliance on international standard

measurements and selecting elements that doesn't reveal the socio-economic situation of a population harms the very people that were supposed to be protected by the system.

The structural Adjustment Programme (SAP) introduced in Ghana due to the IMF and World Bank put pressure on the government that includes devaluation of the currency, removal of subsidies on social services including health, education and imposing user fee for health care to a large extent contributed to the widening of poverty (Mensah et al 2006 cited by Mensah et al 2009). The SAP had a mixed result, agricultural and industrial production increased, inflation fell, domestic saving increased and the budget deficit decreased. However, income inequality between the rich and poor widened, those engaged in the export business prospered, for most Ghanaians particularly rural dwellers that depend on subsistence farming survival became difficult (Mensah et al 2009). For instance between 1983-1994 the number of farmers living below the poverty line in the Northern region in Ghana increased by 4.5 times (Saris and Shams, 1991 cited by Mensah et al 2009).

The poor are more likely to be interested in health insurance schemes to avoid catastrophic health expense as it would have more adverse impact on their livelihood compared to the rich who can pay out right for better health care service. The higher number of dependants in a household the higher probability a household would enroll in health insurance and find it a relief against high health care

## Conceptual Framework



**Fig 2.3 Conceptual framework**

Care cost (Asenso-Okyere 1997). The poor are willing to increase their use of health services at an affordable cost given quality and access could be improved. For instance in Ghana reducing the distance by half to public health facilities increased their use among the population by an estimated 96 % (Lavy & Germain cited by Castro-Lean et al 2000).

A number of countries health policy document fail to exactly define what a poor means. Most of those documents mention literally the names 'poor' or 'Indigent' only. This makes it

hard to fine tune programme interventions to those who need it most. From the different countries it can be concluded that even though fee waiver is important, local community involvement in screening is crucial to identify the poorest of the poor (Carr 2004).

Another reason which makes the identification of the poor difficult is lack of clear procedures, detailed costing analysis and guidelines for setting the minimum premium for the less poor and exempting the indigent. The majority of the poor are employed in the informal sector apart from the challenges of identifying their economic status; collection of premium is much more difficult due to the absence of regular income. In addition, participation in insurance schemes is not cost free and requires a minimum of income in which the poorest of the poor do not have at their disposal (Jutting 2003). In Ghana for instance the coverage for the informal sector employees is low which accounted to 16 % in 2005 (McIntyre 2005). A number of techniques have been suggested by various authors to define the poor which includes identifying household ownership of assets, consumption level, external housing condition etc (Jehu-Appiah et al 2010).

In the Ghanaian context during the ‘cash and carry’ system poor people who could not afford the cost of health care had to apply for exemption in time of seeking care at the health facilities. In most instances the process was subjected to bias, and stigmatization. Under the current NHIS system, district mutual health insurance committees identify and categorize members in to four main social groups, the indigent, the poor and very poor, the middle class and the rich and very rich. The identification of the indigent group for premium exemption is undertaken at community level. All NHIS members whether they are exempted or pay health insurance premiums are issued with identical insurance membership cards which will minimize any service discrimination against the poor (McIntyre 2005, Mensah et al 2009).

The most commonly used strategies to identify the poor are the welfare and the non-welfare approaches. The welfare approach measures poverty according to income level. A person is considered poor if his/her income level falls below some minimum level to meet basic needs. The non-welfare approach is based on the premise that monetary measurements fail to see the broader aspect of welfare. Such as community resource, social relations, culture, personal security, natural environment, and captures the multidimensional nature of poverty (Jehu - Appiah 2010). Hentschel et al (2000) cited by Jehu-Appiah (2010) stressed that every poverty assessment tool should be evaluated under six main criteria such as simplicity, practicality, cost, ability among different levels of poverty, quality and reliability of data.

## **2.6 The National Health Insurance Policy in Ghana**

In August 2003 the Ghanaian parliament passed the National Health Insurance Scheme (Act 650). The act states that all Ghanaians other than members of the military have to join a licensed health insurance scheme such as District Mutual Health Insurance Scheme (DMHIS), Private or Commercial Health Insurance Scheme (PMHIS). The National Health Insurance Scheme (NHIS) replaced the ‘cash and carry’ system that had crippled and prevented the Nation’s health facilities for almost two decades from providing health coverage to all citizens. The National Health Insurance Act 2003 (Act 650) has ten stated objectives namely: equity, risk equalization, cross subsidization, quality of care, solidarity, efficiency, community or subscriber ownership, partnership, reinsurance and sustainability (Afriyie 2004 cited by Wahab 2008, ILO 2005, Mensah et al 2009).

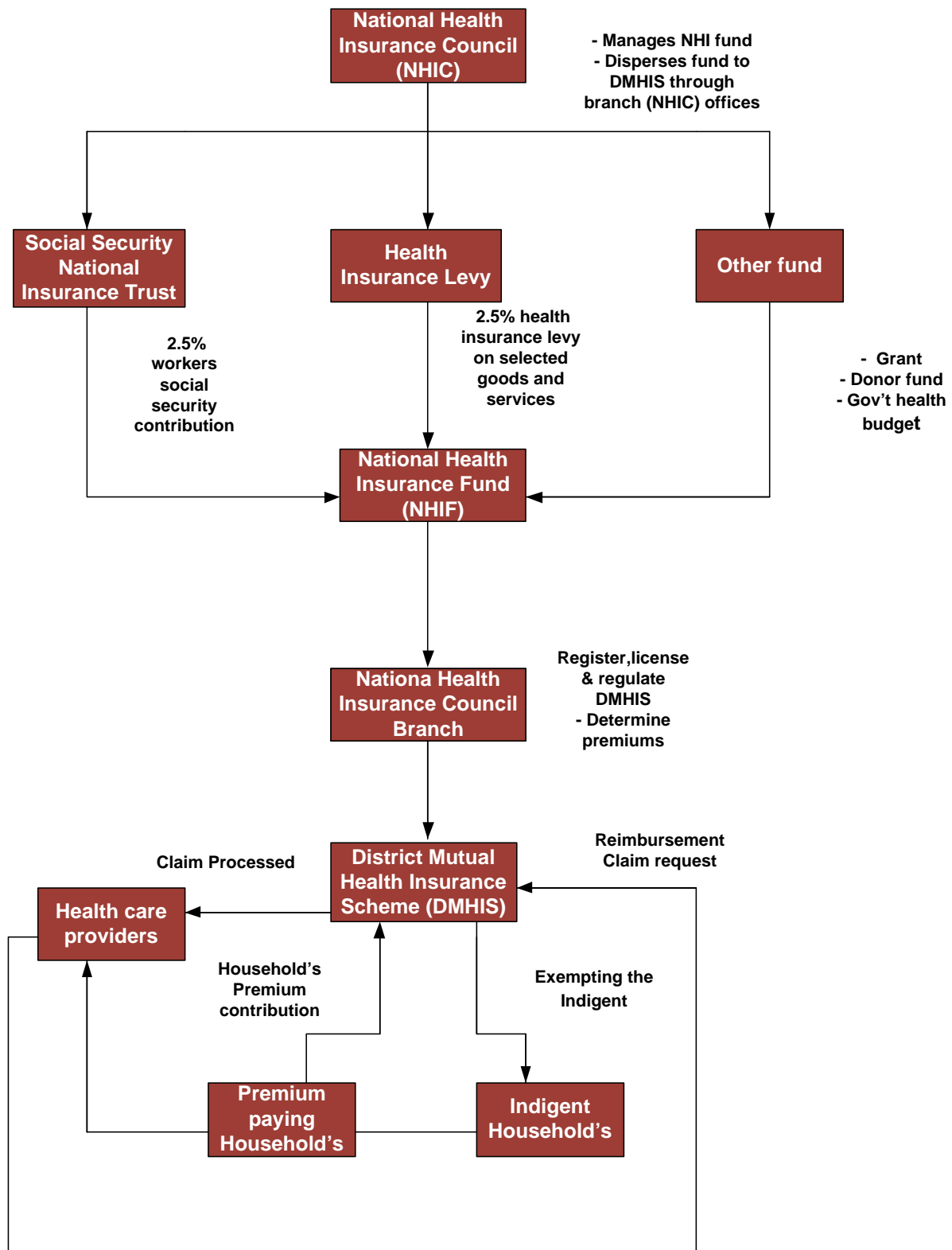
McIntyre (2005) outlined that the Ghanaian National Health Insurance Scheme (NHIS) is designed to combine the contribution of the formal and informal employment sectors through incorporating the already established community health insurance schemes under one umbrella of National Health Insurance system. Under this scheme the government is

committed to universal health coverage. Initially the government plans in reaching 60% of the population with in 10 years of starting mandatory health insurance. The NHIS envisages building a network of District Mutual Health Insurance Schemes (DMHIS) especially in those regions where none exists. In addition to the DMHIS, there are a number of private sector health insurance schemes which cater to the needs of particular groups of employees. Though; these schemes are not part of the NHIS they will have a crucial role to play in ensuring a maximum coverage (ILO 2005). So far about 42 out of 110 districts operate at least one form of District Based Health Insurance Schemes integrated to health care facilities. Those schemes receive funding support from state government as well as NGO's (Osei-Akoto 2003).

By the end of 2007 a total of 145 District Wide Mutual Health insurance Schemes were established and 11 million people had been enrolled representing 55% of the population. In the same year the National Health Insurance Council (NHIC) accredited 800 private health care providers in addition to government health facilities. Formal sector workers contribution of 2.5% to SSNIT (Social Security and National Insurance Trust) is deducted as their health insurance premium. However, they have to register with their respective District Mutual Health Insurance Schemes (DMHIS) in order to obtain the insurance national identification card. The benefit package include general outpatient and inpatient services oral health, eye care, emergencies and maternity care, including prenatal care, normal delivery and some complicated deliveries. Almost 95% of the common diseases such as malaria, diarrhea, upper respiratory diseases, hypertension, asthma, diabetes are covered by the NHIS (Ghana MoH 2004, 2008 cited by Mensah et al 2009, Appiah et al 2010).

A separate body under the Ministry of Health (MOH) called The National Health Insurance Council (NHIC) has the responsibility of overseeing and supporting the public and private health insurance schemes. The council manages the NHIS through the collection, investment; disbursement and administration of the scheme. In addition; the council has the authority of undertaking the licensing, regulation, and accreditation of health care providers (Mensah et al 2009). At district level there exist health insurance assemblies governed by board of trustees, scheme managers, and district health insurance scheme. The management team consists of experts on various fields such as accountants, administrators, data entry clerks, claims managers, marketing managers, and data control manager (Ghana MOH 2004b cited by Mensah et al 2009).

## NHIS Organization and Management



*Fig 2.4 NHIS Management and Organizational chart*

There are four main funding sources to NHIS a) Contribution from the Social Security National Insurance trust (SSNIT) b) Health insurance levy 3) Premium paid by subscribers 4)

Other funds (Wahab 2008). Ghana is a low income country with a per capital income level that is below the average for sub-Saharan African countries. However, there is a big regional disparity with regions for instance the northern regions have a poverty level of 84% and 88%, while greater Accra region has a poverty level of only 5% (McIntyre 2005). The average salary in Ghana differs by type of employment public or private and the sector involved, area of residence etc. The average annual household income in Ghana is US\$ 1,327 (1USD = 0.96 Cedi) where as the average per capital income is US\$ 433, again there is regional disparities e.g Greater Accra region recording the highest of 544 cedi, whilst upper West and Upper east region less than 130 cedi (GLSS- 5 2008).

McIntyre (2005) pointed that apart from the payroll deducted contribution to the social security and national insurance trust (SSNIT) fund those employed outside the formal sector make a minimum contributions of \$8 per adult per annum for the poor, \$20 per annum for middle income, \$53 per annum for high income group, while the indigent, elderly, children under the age of 18 where their parents are members of the district health insurance scheme are exempted from premium contribution. Sulzbach (2005) mentioned that the NHIS premium structure requires that household adults pay an established minimum premium amount of 7.2 cedis per adult. However, the premium payment requirement differs between different DMHIS with in the country.

Wahab (2008) outlined that the NHIS scope of coverage is ambitious promising 95% of most illnesses in Ghana. For instance the minimum coverage include general and specialist consultations such as ultrasound, cervical and breast cancer treatment, surgical operation, eye service, immunization, psychiatric care to mention some among the many. Clearly those are uphill objectives to be achieved by a country which applied for a highly indebted status few years back. The treatment not covered by NHIS scheme constitute: Appliance, prostheses, rehabilitation, dentures, organ aids, cosmetic surgery, HIV retroviral drugs, hormone and organ replacement, heart and brain surgery other than accidents, dialysis for chronic renal failure and Cancers (Hepnet 30 may 2007 cited by Accord 2007). One potential challenge the Ghanaian health insurance would encounter in the future could be adverse selection. Where by a large group of high risk individuals joining the scheme, usually the elderly and the indigent group of people. Which implies less premium contribution to the NHIF as a result the formal sector employees' contribution or the VAT tax will have to increase in the future in order to finance the system.

The health insurance fund constitutes about 31.6 % and 32.6% of the total resource envelop of the health sector in 2006 and 2008 respectively (MoH, 2006, 2008 cited by Abekah-Nkrumah et al 2009). In addition, to the government health budget, a big portion of the National Health Insurance Fund (NHIF) comes from a monthly transfer of 2.5% of the formal sector's Social Security National Insurance Trust (SSNIT) contribution and 2.5% National Health Insurance levy (From selected goods and services, VAT type levy). Wahab (2008) outlined that as in most health insurance schemes the larger the number of enrollees the lower will be the premium to be paid by members. Hence, efficiency will be measured by the percentage of the population enrolled in the scheme. Cost will be measured by the cost of premium payment as a percentage of minimum wage in Ghana. Another measure of success for NHIS is quality of improvement in health care delivery. The basis of the health insurance scheme is the Mutual Health Insurance Scheme supported by the government. While the private and commercial mutual health insurance schemes function independent by private firms or individuals.

There are various types of reimbursing funds to health insurance care providers. In the direct method health workers employed in hospitals and health centers are paid professional salary.

This type of system is most common in Eastern European countries. Under the direct method system health insurance funds contract all services paying private doctors on a fee for service basis. This is common in Belgium, Canada, France, Japan, Luxembourg and Germany. Central government plays a crucial role in overseeing measures to contain costs and secure value for money. Capitation method is used to pay general practitioners in Denmark, Netherlands, Italy and UK, in those countries; the hospitals are either public or mix of public and private agencies. A capitation method applies a negotiated payment for insured members who choose to register with the health care providers whether the insured individuals use the service or not (Abel-Smith 1992). The Ghanaian method of reimbursing health care providers started with fee for service from 2004-2008. In this type of method providers charge for every service or item used in providing care to the patient. The negative aspect of this system was it favored providers. The reimbursement system allowed them to increase unnecessarily services in order to enlarge their revenue. As result it resulted to abuse of the system, delay in submission and payment of bills. To counter the problem the government introduced the Ghana Diagnosis Related Group (G-DRGs) tariff system. The grouping is done by disease, procedures or operation that is medically coherent which utilizes the use of health care resources. The health provider charges for Diagnosis or a procedure performed based on the minimum charges for services in NHIS and the local contract agreement with the scheme. The charge is determined at the end of the service through the involvement of therapist, billing officer, doctors, nurses and all those involved in the care of the patients.

## **2.7 Conclusion**

Financing health care in general and particularly National Health Insurance is a formidable challenge that needs to be surmounted by countries across the globe. Especially in developing countries where the tax collection mechanism is unreliable, a number of governments depend on weak source of financing schemes such as donor funding and bilateral assistance from development partners which cannot ensure sustainability. However, the recent trend in finding an innovative way of financing national health insurance from a combination of various sources such as premium contribution from members, government contribution and external support provides a glimmer of hope that even low income developing countries could achieve universal health coverage with their internal resources.

The introduction of National Health Insurance doesn't guarantee the provision of equitable and affordable health care services, unless it is complimented with strong political will of governments, that put in place legal and regulatory institutional frameworks to oversee the effective implementation of the scheme. In addition, National Health Insurance should be taken as one component of the various health sector mechanism to address health care disparities. For instance a great proportion of health care budget in most developing countries is allocated to hospitals or building health institutions that train medical staff. In contrary primary health care facilities where the majority of the poor population's seek health care receive a small slice of the total government allocated health facility budget. This skews the health care benefit towards those who are better off, leaving the primary health care facilities incapacitated in dealing with preventive health measures that could have been addressed at the community level. The poor would bypass the primary health facilities seeking a better treatment in hospitals, which leads to high transportation cost, loss of productive time, and poor quality of health services due to high patient- doctor ratio in the hospitals (Castro-Leal et al 2000). Identification of the poor and indigent people for health insurance is not an easy task, in most instances it is complicated, time consuming and politically influenced process - fraud being a major problem. However, there is growing evidence that the poor will be



willing to increase the use of health services if the barriers to access and quality are improved. One way of pushing demand for insurance is to make quality service visible to all people (Obermann et al 2006).

It is not easy to sustain an insurance system were the majority of those enrolled are poor and contribute less or are exempted by the insurance scheme. The small formal sector and revenue earned from insurance levy may not financially sustain for a long period of time. Hence, poverty reduction strategic plan should be drafted to alleviate the structural problems that impede the poor from escaping poverty. Some of them include pro-poor macro-economic management to strengthen grass-root economy, capacity building, public sector restructuring, provision of social protection and safety net for the vulnerable group (Somkotra & Lagrada 2007).

In Ghana, the NHIS should not be singled out as a separate policy, rather it should be viewed as a part and parcel of national development strategy of a bigger component geared towards moving the country forward from poverty, through targeting poor and improving their health conditions by breaking the barriers to accessing health care, improving the drug supply and incorporating traditional medicine in to the health system. In many developing countries given the scope of National Health Insurance with the ultimate objective of universal health coverage adverse selection may be more prominent in the short term given the low uptake of informal sector enrollment; however it should not pose a problem if the uptake of various groups of people enrolled in the system increased in the long run. Especially, in developing countries like Ghana where the majority of the population is employed in the informal sector great effort needs to be exerted to devise a national policy aiming to legalize some of the informal sector businesses by creating conducive environment such as reducing administrative/bureaucratic delays for new start up business, access to loan that encourage increase and inclusion of this sector in the health insurance scheme.

## **Chapter 3: Research Design and Methodology**

### **3.1 Introduction**

This chapter explains a brief description of the research methodology. The first part provides an overview of the Ghana atelier. The second section outlines information about area of study. The third part discusses the data collection methods applied. The fourth section focuses on techniques used to analyze the result of field work. The fifth part presents the reliability and validity of the research. The final section addresses time schedules of the thesis up to completion period.

### **3.2 Overview of Ghana Atelier**

Ghana atelier is a collaboration project between various Dutch institutions such as the Institute of Housing and Urban Development Studies (IHS), The Academy of Architecture and Urban Design (ABVR), the Faculty of Architecture of TU Delft and the Kwame Nkrumah University of Science and Technology (KNUST) in Ghana. The programme was first commenced in 2008-2009 in collaboration with the Academy of Architecture and Urban Design. This year IHS is partnering with final year Master's students from the Faculty of Architecture at TU Delft.

IHS students from different specialization who opted for Ghana atelier as their optional course and participants from TU Delft particularly from Urbanism and Architecture Master Courses have been involved in various lectures and workshops to grasp the basic concepts of the Ghana atelier programme and in preparation for the planned research field work in Ghana.

IHS students undertook their field work from 29 June -29 July in Ayigya, a suburb of Kumasi in Ghana. During the outlined time period the Ghana atelier group collected data from various primary and secondary sources for their thesis.

### **3.3 Area of Study**

Ayigya is a suburban settlement 5.7 kilometer to the east of the Kumasi city centre, about 270 km North West of the capital Accra. It is one of the oldest settlements in the greatest Kumasi area and is now an integral part of current metropolitan area. Ayigya is bounded by Asokore Mampond in the north, Kentiokono district in the East, and the Kumasi –Accra main road in the south and KNUST opposite to the main road. The traditional chief still occupies the land ownership in Kumasi. The Population in Kumasi is approximately 1.6 million and it is projected to increase as much as 2.4 million in the year 2020, mainly due to urbanization and the natural growth of population. Based on a census conducted in year 2000, the number of population in Ayigya was estimated to be 30,283.

### **3.4 Data Collection**

The data collection has been undertaken in the project area which is Ayigya (Ayigya Zongo and Old Ayigya) a suburb of Kumasi in Ghana using qualitative and quantitative research techniques.

### Primary Source of Data

In order to gather general socio-economic data and specific information about the respondents profile related to the research topics of the Ghana atelier team members envisage to undertake. A Joint questionnaire has been developed by the Ghana atelier team members in collaboration with IHS instructor and Ghana atelier coordinators prior to the scheduled travel to the field. In order to test and administer the questionnaire, the team has divided the site in to 5 plots with equal households focusing on the poor part of Ayigya, excluding commerce buildings and non-compound houses . A team of two individuals were assigned to each of the five boundaries and numbering was done according to team's discretion. A total sample of 180 households were selected for the joint survey; the team members interviewed one household from each compound house. Each team documented contact details; block and house number of respondents for further interview.



*Figure 3.1 Map of Ayigya*

A systematic random sampling technique has been applied to select poor insured and non-insured individuals from the outcome of the joint survey. In Ghana rice is one of the staple food mostly eaten by middle and rich households, in most instances poor households cannot afford to eat rice on a daily basis. In addition, middle and rich households purchase cooking oil in large quantities such as 5 litre or more, while the poor rely in buying small quantities for daily use only. As a result consumption of rice and quantity of oil purchased per week were used as a criterion to determine respondents socio-economic stratification. Since, the target area selected was poor neighborhood the majority of the respondents fall under the poor category according to the criteria set out. The joint survey produced a total of 135 insured and 45 non-insured individuals; however, the majority of the respondents in both groups didn't report of receiving inpatient care treatment recently or over the past year. Hence, every third household with clear addresses from the joint survey outcome were randomly selected. Obviously, a bigger sample could have been drawn from the outcome of joint survey, however lack of clear identification of house addresses (house and block numbers) made it difficult to select additional households for further interview. As the result the researcher restricted the sample size from the joint survey only to 10 insured and 10 non-insured. Based on the site analysis of poor neighborhoods in Ayigya, the researcher continued randomly picking one household from every third compound house in order to eventually meet the desired sample size of 25 insured and 25 non-insured poor households.

An In-depth interview has been conducted with the district mutual health insurance scheme officers in Asokwa in charge of registering the community in Ayigya as to gain a better understanding of their function as well as to find out the challenges and prospects of NHIS registration process of the target population. Additional in-depth interviews has been conducted with DMHIS officers in Bantimar a sub-metro in Kumasi as well as Ajesu DMHIS located in the out skirts of Ayigya to validate the various responses with regards to the function and role of DMHIS across the region.

A former member of parliament who was chairman of the health committee when the NHIS bill was passed in to law and currently the head of Pharmacy unit at KNUST university hospital has been interviewed to grasp the process that had been taken place in introducing the scheme and the models applied since its inception days. From the interview information has been gathered particularly focusing on NHIS list of drugs and the hospital's outlook on the type and quality of medicines provided to the general public. Additional, In-depth interview has been conducted with the administrator of KNUST hospital, the head of the public health branch unit, and head of NHIS accredited maternal clinic located in Ayigya. The discussion focused on the role of the health facilities before and after the introduction of NHIS in providing equitable and qualitative health service to the poor. Assess the community based activities such as advocacy and partnership, awareness raising, health promotion campaigns as well as community based interventions aimed at providing pre-natal and post-natal care to pregnant women and under-five outreach vaccination services to Ayigyian community.

A non-participatory observation technique was done over a period of a week to analyse the patients and nurses interaction, degree of crowiness particularly in the outpatient care unit. The observation at the hospital focused on children ward, male and female ward, availability of enough bedding, clean sheet, air conditioner and tidiness of the rooms etc.

### **Secondary Source of Data**

Secondary source of data was gathered from the Ghana Ministry of Health (MoH) publications; NHIS policy guide, implementation report and leaflets produced by the various DMHIS's consisting of information regarding the NHIS benefit package and other specific services provided to NHIS subscribers. The NHIS website has been searched as well to find out about the current implementation status, NHIS Act document; the type of drug list provided to the public.

### **3.5 Data Analysis**

The data collected from the household survey is analyzed using quantitative analysis techniques using tabulation to generate charts, frequency tables, graphs and diagrams. The qualitative data from the tape recorded In-depth interview and non-participatory observation results was coded and analyzed using key themes and descriptions.

### **3.6 Reliability and Validity**

The involvement of IHS instructors together with the Ghana atelier team members in the research design stage played a crucial role in formulating a good questionnaire and ensure the reliability of data gathered. In addition, both the individual and joint questionnaires has been tested prior to administering the final questionnaire to the Ayigian community inorder to identify potential flaws and take the necessary corrective action at the early stage of the field work. The validity is assured through triangulation technique comparing the consistency of responses from the expert in-depth interview with household questionnaire outcome.

### 3.7 Time Schedule

- **21 June:** Submission of 2<sup>nd</sup> draft research proposal
- **24-25 June:** Presentation of research proposal
- **29 June-29 July:** Field work in Ayigya, Ghana
- **30 August:** Submission of draft final thesis
- **13 September:** Submission of final thesis
- **20-22 September:** Final Defense

### 3.8 Variables and Indicators of the Research

Research sub-question	Target group	Variable	Indicators	Data source
What are the major barriers to accessibility of proper health care in Ayigya, subsequent to the National Health Insurance Scheme?	Household	Financial barrier	<ul style="list-style-type: none"> <li>• Type of employment</li> <li>• Household characteristics (education, socio-economic status)</li> <li>• Number of household's employed members</li> <li>• Premium level</li> <li>• Cost of consultation</li> <li>• Cost of medication</li> </ul>	Questionnaire
	Household	Physical barrier	<ul style="list-style-type: none"> <li>• Availability of health facility nearby (Government, mission, private)</li> <li>• Transportation cost</li> <li>• Accessibility (distance, travel time spent, quality of care)</li> </ul>	Questionnaire
	Household	Social barrier	<ul style="list-style-type: none"> <li>• Traditional habits</li> <li>• Perceived illness (mild, moderate, high seriousness of illness)</li> <li>• Self treatment</li> <li>• Stigmatization</li> </ul>	Questionnaire

How the NHIS does impact the effectiveness of health care accessibility and financial protection to the poor people in Ayigya?	Household	Health facility use  Financial protection	<ul style="list-style-type: none"> <li>• Number of people using health facility</li> <li>• Prenatal and post natal care</li> <li>• Professional assisted delivery</li> <li>• Reduction in out of pocket payment</li> <li>• High disposable income</li> </ul>	Questionnaire
What various methods are used to identify the poor in determining the exemption and setting a minimum level of premium payments in the district health insurance scheme?	District Mutual Health Insurance Scheme (DMHIS)	Identification of the poor	<ul style="list-style-type: none"> <li>• Household income</li> <li>• Household consumption level</li> <li>• Household ownership of assets</li> </ul>	Indepth Interview
		Methods of premium setting	<ul style="list-style-type: none"> <li>• Flat premium</li> <li>• Type of minimum insurance benefit package to the poor</li> <li>• Leakage of benefit to the non- poor.</li> </ul>	Indepth Interview
		Collection of premium from households	<ul style="list-style-type: none"> <li>• Level of informal sector contribution</li> <li>• Administration efficiency</li> <li>• Availability of well trained health insurance scheme members</li> </ul>	Indepth-Interview
		Coverage of distric health insurance scheme	<ul style="list-style-type: none"> <li>• Level of adverse selection</li> <li>• Time spent processing health insurance card</li> </ul>	Indepth-Interview
What is the role of the government hospital in Kumasi and the clinics in providing efficient and qualitative health care to health insurance members? Inaddition, the role of various stakeholders such as NGO's, civic societies in		Type of services provided	<ul style="list-style-type: none"> <li>• Level of outpatient care by the insured</li> <li>• Level of inpatient care use by the insured</li> </ul>	Indepth Interview

complimenting the NHIS at community level in providing health care?				
		Capacity of hospital	<ul style="list-style-type: none"> <li>• Availability of enough medical supplies</li> <li>• Availability of enough medical staff</li> <li>• Availability of outpatient service.</li> <li>• Availability of enough bedding, clean sheet</li> </ul>	Indepth Interview
		Partnership with NGO's	<ul style="list-style-type: none"> <li>• Types of NGO's available</li> <li>• Type of community based interventions</li> </ul>	Indepth Interview
		Attitude of health workers and quality of care	<ul style="list-style-type: none"> <li>• Proper treatment of patients</li> <li>• Average time a doctor spent per patient</li> <li>• Doctor/nurse patient ratio</li> </ul>	Indepth Interview

*Table 3.2 Variables and Indicators*

## Chapter 4: Findings and Analysis

### 4.1 Introduction

This chapter provides the result of the field work data gathered from the Individual and Joint group survey. The outcome of the analysis is presented in frequency tables, charts or graphs. The main objective of the research was to Analyse the Impact of the National Health Insurance Scheme on Accessibility of Health Care in Ayigya. The field work has been undertaken in two phases with in a period of one month; initially a joint household questionnaire was administered by the Ghana atelier team to 180 households in order to gather basic socio-economic information about the respondents. As well as 50 individual questionnaires administered equally divided by the researcher to National Health Insurance insured and non-insured in Ayigya, Kumasi. The sample in this analysis shows variance due to the nature of the questions, response rate as well as nature of survey administered such as joint survey or individual.

### 4.2 National Health Insurance Scheme Registration Status

In order to operationalise the NHIS each district has been divided in to health insurance committees so that health insurance could be brought to the door step of all Ghanaians. The government has come out with a minimum benefit package of diseases which every district wide scheme must cover. This package covers 95% of most illnesses in Ghana. Certain diseases that constitute only 5% of the total number of diseases are excluded from the list. Mainly because it might be expensive to treat those diseases and could drain a big chunk of the NHIS fund. There fore, other arrangements are being considered to enable people get these diseases treated.

According to the information posted in the NHIS official website, as of November 2009 a total number of 14,282,620 subscribers which make up 69.93% of the population were registered in the 145 District Mutual Health insurance Scheme (DMHIS).

Numbers and Percentage to Total Card Bearers			Status of Implimentation	
Category Bearers	Number	% of ID card	Description	Number/ Percentage
Informal Adults	4,132,783	29	Schemes in operation	145
Aged above 70 years	960,549	7	Total number of subscribers	14,282,620
Under 18 years	7,071,270	49	Percentage of population registered	69.93 (2000 base year)
SSNIT contributors	876,034	6	Total ID card beares	12,123,338
SSNIT pensioners	75,444	1	ID card bearers as percentage of total registered	84.90%
Indigents	444,597	1		
Pregnant Women	721,943	5		
Total	14,282,620	100		

Table 4.1 Source: Operations Directorate of National Health Insurance Authority 2009

The Askowa Sub-metro Mutual Health insurance Scheme has the overall responsibility and jurisdiction of registering over 11 communities, including the Ayigya community. According



to the NHIS guideline health insurance subscribers have the right to register at any District Mutual Health Insurance Scheme (DMHIS) of their choice throughout the country; however, it is preferable for community members to be registered in the nearest DMHIS.



*Photo:4.1.1 Asokwa DMHIS office at the Hospital      KNUST Hospital Compound*

To facilitate the health insurance registration process the Asokwa DMHIS apart from its main office outside Ayigya, opened a small office at the University Compound adjacent to Ayigya in order to register fresh NHIS Subscribers, renew NHIS membership card, as well as provide exemption cards to pregnant women who visit the hospital seeking prenatal care. The scheme has a total membership of 284,874 representing 78% of the district population. The registration is categorized as follows.

MONTH	INFORMAL	SC	SP	<18	PW	70+	IND.	TOTAL
<b>UP TO 2009</b>	87,958	17,696	843	117,038	26,274	14,543	844	265,196
<b>January-10</b>	1,129	65	1	1,260	812	44	6	<b>3,317</b>
<b>February-10</b>	757	39	0	950	1,461	28	6	<b>3,241</b>
<b>March-10</b>	942	77	12	1,183	1,315	50	0	<b>3,579</b>
<b>April-10</b>	845	135	0	976	576	50	34	<b>2,616</b>
<b>May-10</b>	694	61	1	1,352	1,045	37	3	<b>3,193</b>
<b>June-10</b>	642	164	11	1,047	1,787	63	19	<b>3,733</b>
<b>SUB TOTAL</b>	<b>5,009</b>	<b>541</b>	<b>25</b>	<b>6,768</b>	<b>6,996</b>	<b>272</b>	<b>68</b>	<b>19,679</b>
<b>G. TOTAL</b>	<b>92,967</b>	<b>18,237</b>	<b>868</b>	<b>123,806</b>	<b>33,270</b>	<b>14,815</b>	<b>912</b>	<b>284,875</b>

Table: 4.1.2 source: Asokwa DMHIS

### Key

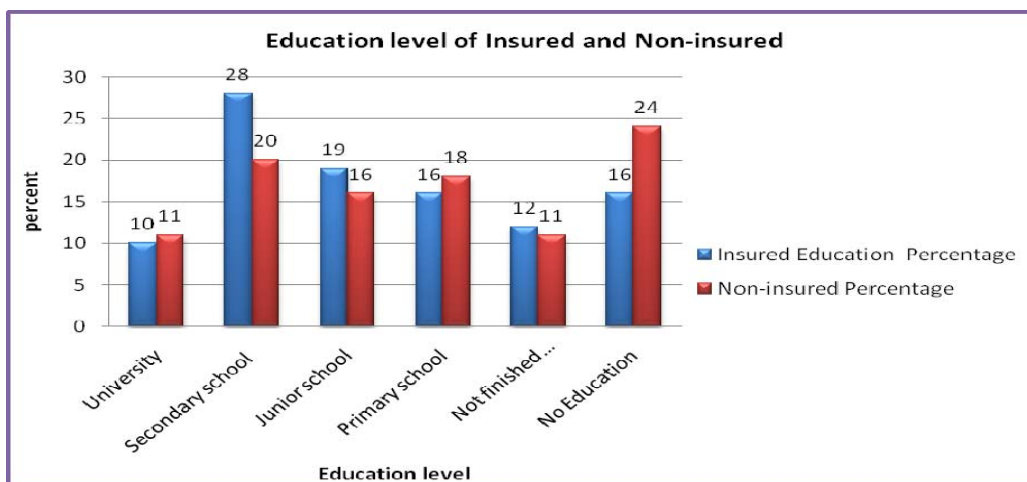
- SC-SSNIT Contributors
- PW- Pregnant women
- 70(+)- 70 years above
- Informal voluntary
- <18 Children under 18 years
- SP-SSNIT Pensioners
- IND -Indigent

### 4.3 Factors that Influence Enrollment in National Health Insurance Scheme

The profile of insured and non-insured members has been analyzed to identify factors that determine enrollment rate in the NHIS. The control variables such as education level, income level, health status, and age has been selected as the main indicators for comparison in analyzing the push factors that play a role in an individual's decision to enroll in the health insurance scheme.

#### 4.3.1 Education Level of Insured and Non-Insured

As shown in the graph below the educational level of insured and non-insured respondents shows a similar trend. Among the non-insured 24 % of them have no formal education, while 16% of the insured fall under the same category. Out of the insured respondents 28% completed secondary school education, compared to 20% of the non-insured. For the remaining categories the level of education between the insured and non-insured is uniform with a marginal percentile difference. The analysis proves that level of education is not a major factor that determines the insured health insurance subscribers decision in Ayigya to enroll in the National Health Insurance Scheme (NHIS).

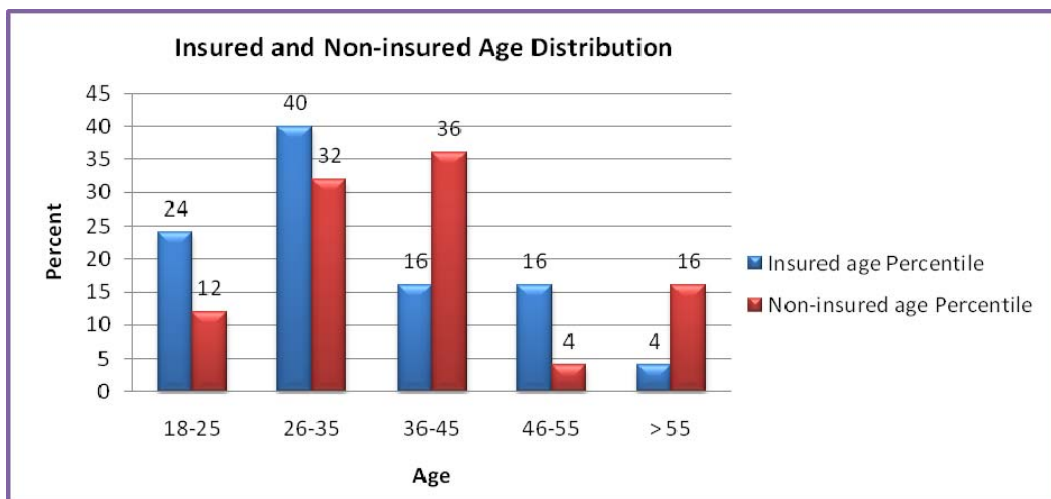


Graph 4.2.1 Source: Individual field work 2010 (Obs.135 insured and 45 non-insured)

The researchers developed a set of criteria to identify the poor. The criteria includes a maximum of 2-3 times rice consumption per week in one meal quantity and a weekly purchase of 1 drinking bottle of cooking oil or less. The joint survey as well as individual questionnaires has been administered in the low income part of Ayigya, such as the majority of residents live in compound houses, the drainage, and sanitation facilities are deprived or nonexistent etc. Those who gave a response above the set criteria to identify the poor individuals are treated as middle income individuals and are not considered for the survey interview. Hence, all of the selected insured and non-insured respondents are comparable, since all of them fall under the poor category. As a result income plays a neutral role as a push factor in influencing both insured and non-insured individuals decision to enroll in the health insurance scheme.

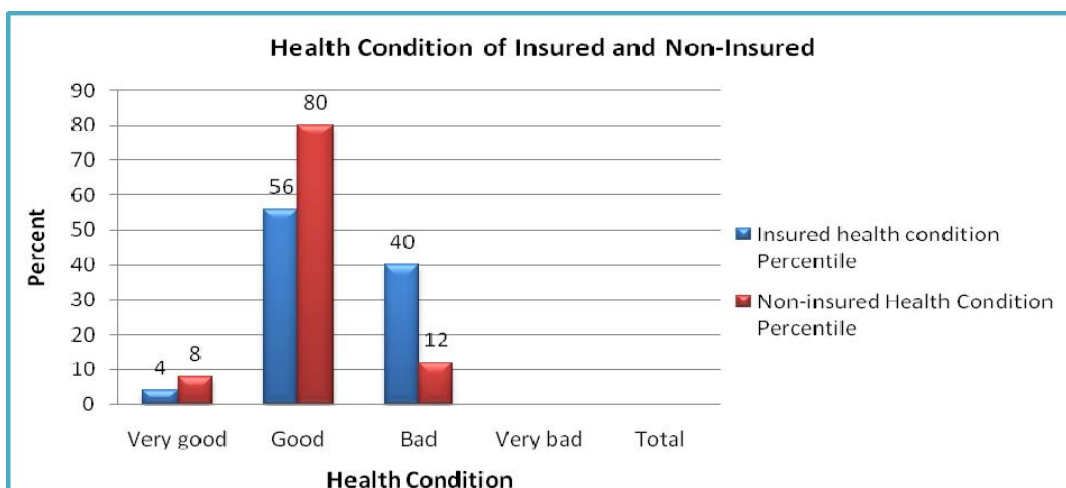
#### 4.3.2 Age and Health Condition of Insured and Non-Insured

The age distribution of respondents consists of 24% of the insured between the age of 18-25 years compared to only 12% of the non-insured.



Graph 4.2.2 Source: field work 2010(Obs.135 insured and 45 non-insured)

The non-insured scored a higher percentage of 36% in the middle age group between 36-45 as opposed to only 16% of the insured. The insured in the age group of 46-55 years consist of 16% of the respondents compared to 4% of the non-insured. Out of the respondents 16% of non-insured are above the age of 55, while the insured consists only 4% in old age category. The majority of non-insured individuals are older in age, due to their age limit, most of them are pensioners or unemployed as a result they may not afford the health insurance premium. The life expectancy on average in Ghana is 60 years of age, however, one striking observation in Ayigya is the high number of older age people in most of the compound houses visited, the residents explained people live long in Ayigya at times it is not strange to see the elderly people above the age of 90 in good health condition. This finding could be another a research topic to determine as to what factors influence longevity apart from heredity in unhealthy environment such as Ayigya, as for NHIS though, it has a strong implication policy makers to target health care to those who most need it.



Graph 4.2.3 Source: field work 2010(Obs.135 insured and 45 non-insured)

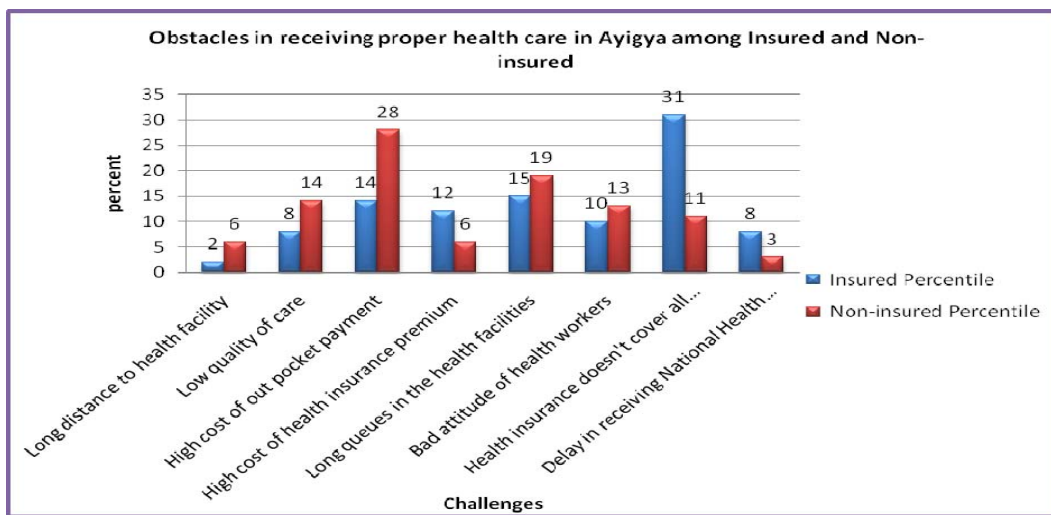
There is little variance in terms of the age distribution of insured and non-insured, though the majority of the insured fall under the age of 35 years, equally a significant percent of the non-insured are part of this group as well. Infact, a high percentage of middle age respondents are between the age of 36-45 years are uninsured. The analysis shows a mixed result, though a consistent trend was not observed in all categories among insured and non-insured, the

majority of insured individuals tend to be younger while, a relatively a higher proportion of non-insured are older in age.

As seen in the above graph 80% of the non-insured mentioned their health condition is good compared to 56% of the insured in same category. The positive perception of non-insured individuals about their health condition could have played a major role in people’s decision not to enroll in the NHIS. On the flip side 40% of the insured pointed out their health condition is bad as opposed to only 12% of the non-insured in the same category. The non-insured members gave a higher positive response interms of their health condition, as opposed to the insured; similarly the insured respondents expressed the highest dissatisfaction with regards to their health condition. There is a strong indication that health condition of individuals played a major role in people’s decision to register or not register in the NHIS.

#### 4.4 Major Barriers to Accessibility of Health Care in Ayigya

To identify the major barriers in accessing health care the same question has been posed to the insured and non-insure individuals. Among the insured 31% of the respondents mentioned the NHIS inability to cover all medical expenses as the major stumbling block to accessing health care in Ayigya. Particularly for outpatient care insured individuals pay out of pocket for the cost of drugs more frequently that for inpatient care. Infact some of the insured showed the researcher a doctor prescription placed in their drawers for so long because they couldn’t afford the cost of medicines. The DMHIS officers are adamant in their responses that NHIS covers most of the medicines Ghanaians require. However in practice the majority of insured respondents complain about out of pocket expenses for drugs. Though, the non-insured are not part of the health insurance scheme, 11% of them believe since the NHIS doesn't cover all medical expenses it became a barrier to accessing health care by means of registering in the scheme.



Graph 4.3: Source: Field work 2010(Obs. 25 insured and 25 non-insured)

High out of pocket expense was cited by 28% of non-insured individuals as the major barrier to accessing health care. The non-insured are still in the era of “cash and carry”, they are not protected against financial catastrophe spending to health care. Low quality of care was cited by 14% of the non-insured as a third main barrier to accessing health care in Ayigya, compared to 8% of the insured in the same category. The non-insured individuals mentioned they receive inferior care, face bad treatment and reception, even get to be served

last at the health facilities. The health officers mention no differential treatment exist at the health facilities, however the non-insured reiterated their opting out of the health insurance scheme has almost become a stigma in accessing health care.

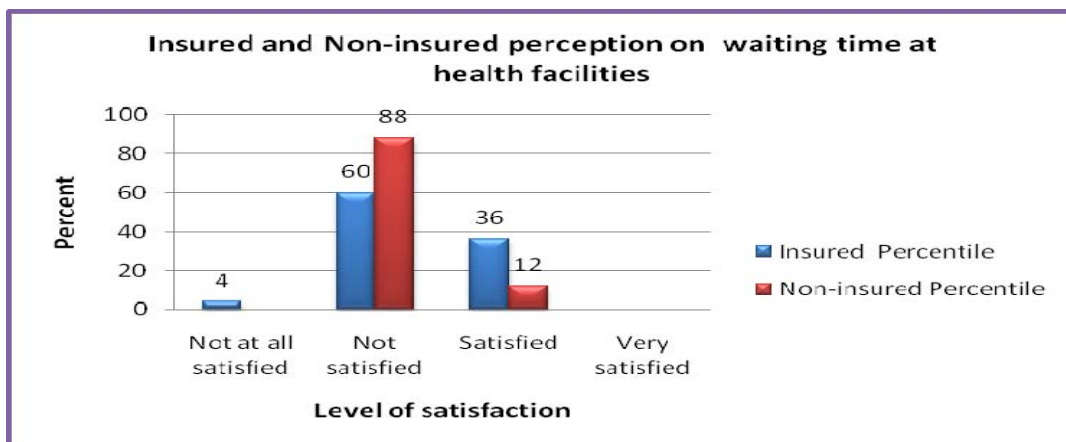
Out of the non-insured respondents 6% mentioned that long distance to health facility as a barrier to accessing health care compared to only 2% of the non-insured in the same category. The analysis proves that non-insured individuals pay high out of pocket payment and attest to the fact they are not financially protected in accessing health care, on the same note the insured believe that NHIS’s inability to cover all medical expenses is a barrier to accessing health care in Ayigya. Both the insured and non-insured reiterated that long queues in the health facilities as the second highest inhibiting factor from accessing proper health care.

#### 4.4.1 Perception of Insured and Non-insured on Treatment of Health Workers and Waiting Time at the Health Facilities

As discussed from the above analysis it was found out that financial barrier such as high cost of out of pocket payment and physical barriers which includes such as long waiting time, low quality care were cited as main obstacles to access care. A follow up question has been posed both to insured and non-insured about their level of satisfaction interms of waiting time inorder to validate their claim about the physical inaccessibility of health care and perception of both insured and non-insured groups on treatment of health workers to determine to some extent the level of quality of service.

The majority of respondents 88% of the non-insured and 60% of the insured expressed their dissatisfaction about the waiting time at the health facilities. Though, the insured and non-insured individuals use the same type of health services, the non-insured as mentioned above tend to be more dissatisfied with long waiting time, partly it is because they have to visit the cashier to pay for the cost of health care before waiting on the queue. Similarly, 60% of insured individuals outlined their dissatisfaction about the waiting time. Physical inaccessibility of health care such as long waiting time at the health facilities is seen as a big impediment in accessing health care in Ayigya.

The respondents mentioned that the main reason for the long waiting time was due to inefficient working system, lack of motivation among health workers to execute the task on a timely manner and high patient to doctor ratio. While, 36% of the insured individuals expressed satisfaction regarding the waiting time the figure for the non-insured is as low as 12% on the same category.

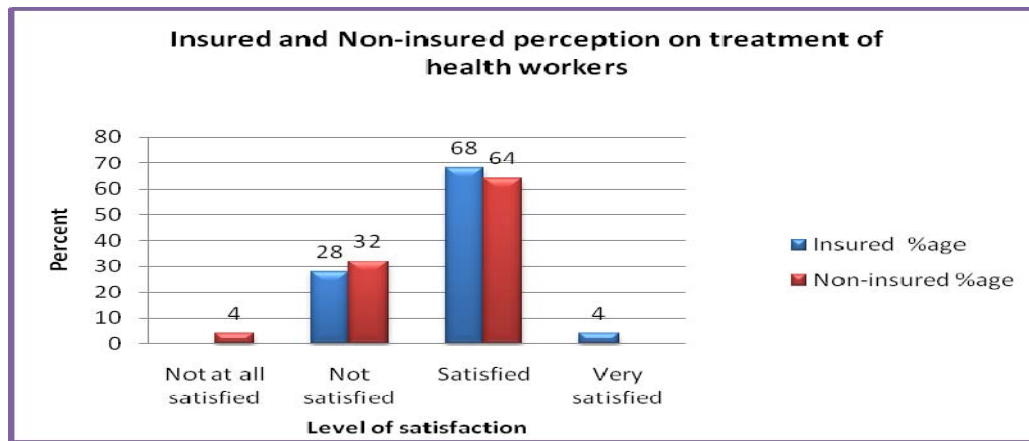


Graph 4.3.1: Source field work 2010(Obs. 25 insured and 25 non-insured)



On the extreme side 4% of the insured mentioned that they are not satisfied at all with the waiting time at health facilities, however none of the insured expressed dissatisfaction in the mentioned category.

Almost comparable percentile of the respondents 68% of insured and 64% of non-insured expressed satisfaction with the treatment of health workers. While, 28% and 32% of the insured and non-insured consecutively stated they are not satisfied with treatment of health workers. The dissatisfied respondents outlined that the health workers particularly the nurses lack communication skills and motivation to provide good services to patients. In an effort to contain grievances and deter potential patient vs nurse argument and conflict, the hospital installed a CCTV camera at the outpatient department.



Graph 4.3.2: field work 2010 (Obs. 25 insured and 25 non-insured)

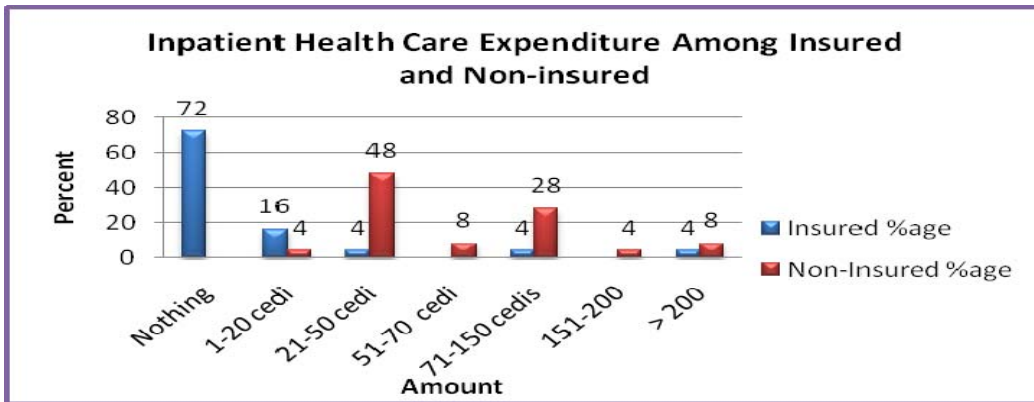
#### 4.4.2 Comparative Analysis of Out of Pocket Expenditure to Health Care by Insured and Non-Insured

According to the Ghana living standard survey report of fifth round (GLSS-5) 2008, the average annual household expenditure in Ghana is 1,918 cedi, while the mean annual per capital consumption expenditure in Ghana is 644 cedi. In comparison to rural areas the annual household expenditure is about 1.6 times higher in urban localities.

##### 4.4.2.1 Inpatient Care

The Ghanaian National Health Insurance Scheme was introduced initially on the premise of eliminating excessive out of pocket health care payment. A comparative analysis has been done to determine whether the introduction of NHIS protected insured individuals from catastrophic health care payment compared to the non-insured. Out of the insured a higher proportion of respondents 72% outlined they paid nothing for the inpatient care received. On the same note only 16% of the insured mentioned to have paid between 1-20 cedis. While, a lower percentile of the insured 4% mentioned to have paid an inpatient care cost within the range.

This shows that a higher proportion of the insured in comparison to the non-insured pay less amount of cash for inpatient care. The higher the out of pocket payment the higher the expenditure of non-insured household's to cover the cost of health care. On a higher range of expenditure 8% of the non-insured mentioned to have paid above 200 cedi, compared to only 4% of the insured in the same category. The reason as to why there are a small portion of insured individuals who pay a higher amount for inpatient care is because the NHIS covers only 95% of most diseases in Ghana. The cost of the remaining 5% of diseases such as



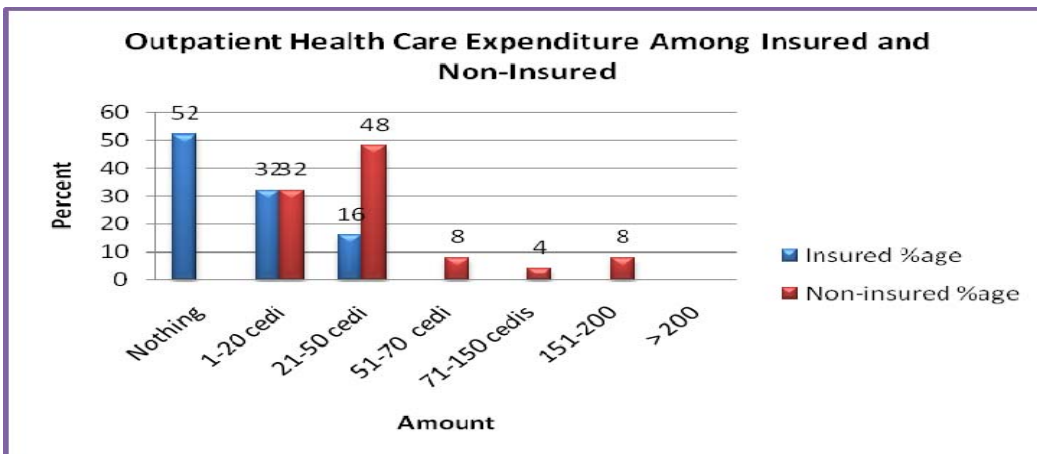
Graph 4.3.2.1: field work 2010 (Obs. 25 insured and 25 non-insure)

appliance prostheses, rehabilitation, dentures, organ aids etc has to borne by patients through out of pocket expenditure.

#### 4.4.2.2 Outpatient Care

In contrast to inpatient care cost 52% of the insured mentioned to have spent nothing for outpatient care. The NHIS doesn't cover the cost of all medical expenses, though there is no copayment in terms of accessing care, there are a considerable number of drugs not covered under the health insurance scheme.

Equal percentile of insured and non-insured which is 32% in both groups of respondents outlined to have paid between 1-20 cedi. Apart from the 16% of the insured compared to 48% of non-insured in the same category who spent between 21-50 cedi, none of the insured mentioned to have spent any amount of money



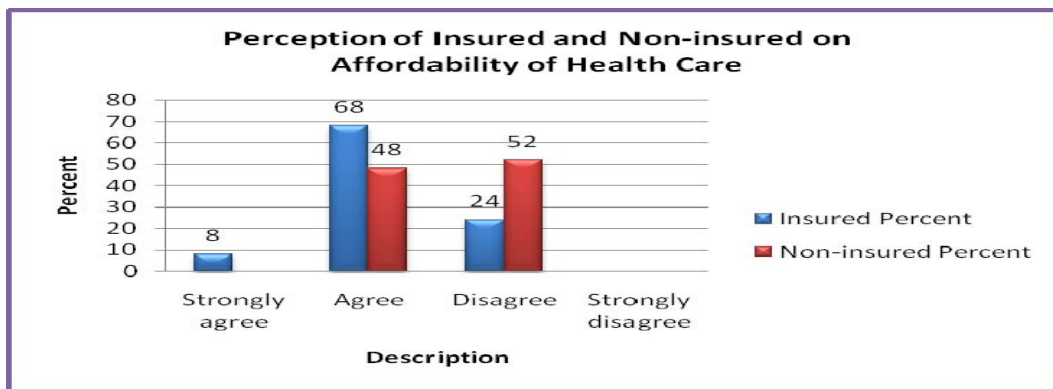
Graph 4.3.2.2 Source: Individual survey 2010

for outpatient care beyond the mentioned range. Though, a significant number of insured households are paying out of pocket for outpatient care their proportion of expenditure is very low as compared to the non-insured, which signifies the NHI covers most of the expensive drugs needed. At times the patients couldn't find the prescribed medicines at the accredited health facilities as a result they had to buy the medicines out of pocket from a private non-accredited private drug stores, who keep full stock in most instances since they target the affluent segment of the society who are not registered under the district mutual health insurance scheme.



#### **4.5 Affordability of Health Care Among Insured and Non-insured**

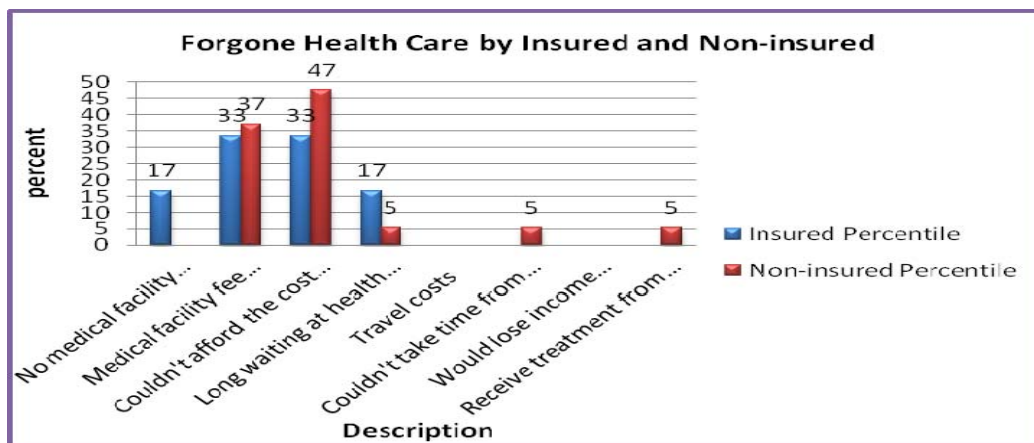
The same question has been posed to insured and non-insured on affordability of health care in Ayigya. Out of the insured respondents 68% of them outlined that they agree health care is affordable in contrast to 48% of the non-insured in the same category. On the flip side 52% of the insured mentioned that they disagree about the affordability of health care mainly due to high cost of out of pocket payment for the cost of drugs. Health care is not affordable to a great proportion of the non-insured because they had to pay for the cost of prescribed drugs and also the full cost of medical consultation and inpatient care. In contrast the insured spend far more often for the cost of outpatient care, while a greater proportion of them receive inpatient care free of charge.



Graph 4.4 Source: Individual survey 2010(Obs. 25 insured and 25 non-insured)

#### **4.5.1 Forgone Care Among Insured and Non-Insured**

Out of the Non-insured respondents 47% outlined there has been times when they had forgone care because they couldn't afford the cost of drugs, in contrast to 33% of the insured in the same category. For the outpatient care the insured tend to spend more frequently as much as the non insured for the cost of drugs, in most instances they may not always have enough cash at their disposal to buy the medicines. While, 33% of the insured and 37% of the non-insured outlined they had forgone health care due to high cost of hospital care fee. The insured mentioned that since the NHIS doesn't cover all the cost of inpatient care, they had forgone the treatment until they earn enough money or wait until they secure a loan from individuals to cover the cost of expensive medical treatments.



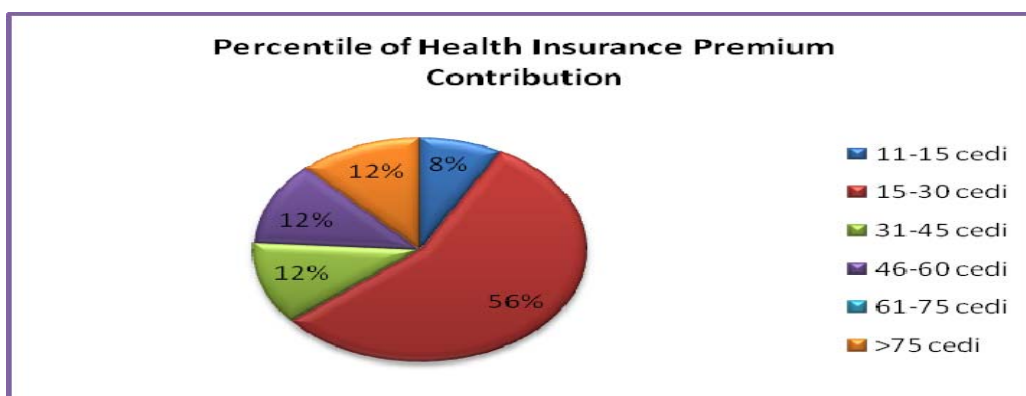
Graph 4.4.1 Source: Individual survey 2010(Obs.25 insured and 25 non-insured)

Long waiting time at the health facilities was cited by 17% of insured and 5% non-insured as a reason of forgone care. The insured responded more swiftly to long queues by forgoing care than the non-insured. Probably the insured might see the long queues unacceptable and avoiding the health facilities could be a sign of frustration, though not the best way to deal with the situation. Some of the insured individuals which make up 17% believe they had forgone care because there are no health facilities around Ayigya. However, in Ayigya there is a big university hospital and two maternal clinics which cater to the health care needs of Ayigian community as well as the vicinity towns, hence the response of insured might have been biased due to lack of information about availability of health services or they have a perception that the health facilities are not enough. Out of the non-insured 5% of the respondents mentioned they had forgone care because they couldn't take time off from work—those are especially the petty trade informal sector workers who had to fight daily for their survival on menial jobs and street vending. While, the remaining 5% of the uninsured outlined that they received medical care from traditional healers as a result they had to forgo care at public health facilities. It is interesting to find out only a small proportion of the Ayigian population seek treatment from the traditional healers, mostly in difficult circumstances when they are unable to afford the cost of medical care. This shows the influence of traditional healer in Ayigya is gradually fading away, probably due to the introduction of NHIS and a change in health care seeking behavior of the population to seek medical care from health facilities only.

#### 4.5.2 Health Insurance Premium Contribution

The National Health Insurance premium contribution ranges between 7.2 cedi to 48 cedi. The NHIS guideline mentions that health insurance subscribers contribute based on their income level. However, in practice various methods of setting premium level are applied at the DMHIS through out the country. The majority of health insurance subscribers which account 56% mentioned to have contributed between the range of 15-30 cedi per family. The NHIS lays a provision for exemption to individuals who are unable to contribute for health insurance.

On average the health insurance subscribers spent monthly 150 cedis for their living expense. In contrast to the proportion of the insured poor people's income level and monthly expenditure, the yearly premium level is affordable.



Graph 4.4.2: field work 2010

However, large family size health insurance subscribers may find it hard if not impossible to raise enough amount of money to cover the health insurance premium contributions and processing fee as a lump sum.

#### 4.5.2.1 Perception of Insured and Non-Insured Individuals on Existence of Individuals for Exemption

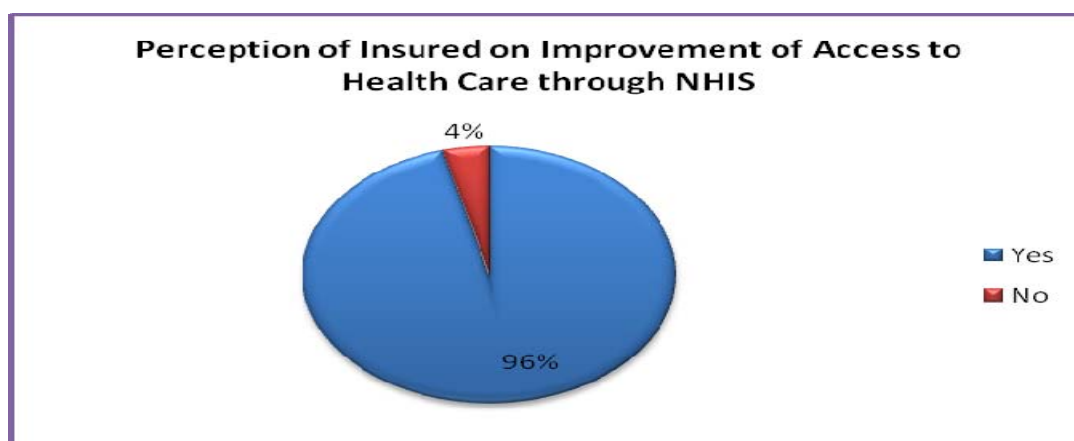
The majority of the insured respondents which account 60% mentioned that there are no individuals in their locality who should be provided with free access to health care through the exemption policy, in contrast to 44% of the non-insured in the same category. Since the insured are contributing premium they believe except in minor instances everyone should work and pay their premiums, where as the non-insured might have an expectation the exemption policy will allow the many indigent who are uncared for to enroll in the scheme. On the same note 40% of the Non-insured and 32% of the Insured outlined that some individuals such as the elderly with out age limitation should have free access to health care through the NHIS exemption policy. The respondents in addition mentioned disabled, individuals regardless of their age who are unable to work due to serious several circumstances should be included under the exemption list of NHIS.

Are there individuals in your locality who should be exempted from paying premium?	Insured		Non-insured	
	Frequency	Percentile	Frequency	Percentile
Yes	8	32	10	40
No	15	60	11	44
Don't know	2	8	4	16
<b>Total</b>	<b>25</b>	<b>100</b>	<b>25</b>	<b>100</b>

Table 4.4.2.1: Source: Field work 2010 (Obs. 25 insured and 25 non-insured)

#### 4.6 Improvement of Access to Health Care Through NHIS

The majority of the insured respondents which account 96% believe the introduction of NHIS has improved their ability to receive proper health care as compared to the so called 'cash and carry' days. In addition, the respondents outlined they have trust on the management of the health insurance scheme in which the premium contribution will be used to improve their health condition.

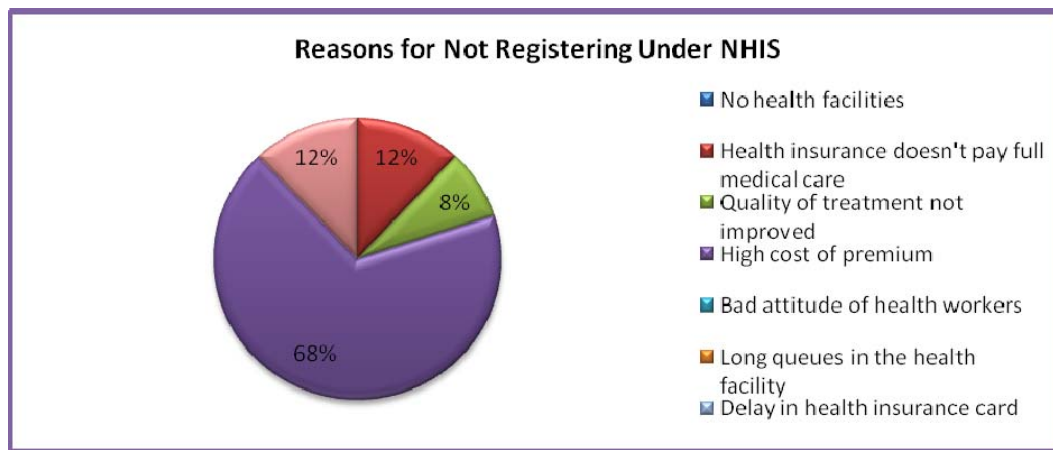


Graph 4.5 Source: Individual survey 2010 (Obs. 25 insured and 25 non-insured)

The remaining 4% of insured mentioned the NHIS has not improved their health condition, because quality drugs are not provided to the insured and only those who could afford to access private health facilities would receive better quality medicine and treatment.

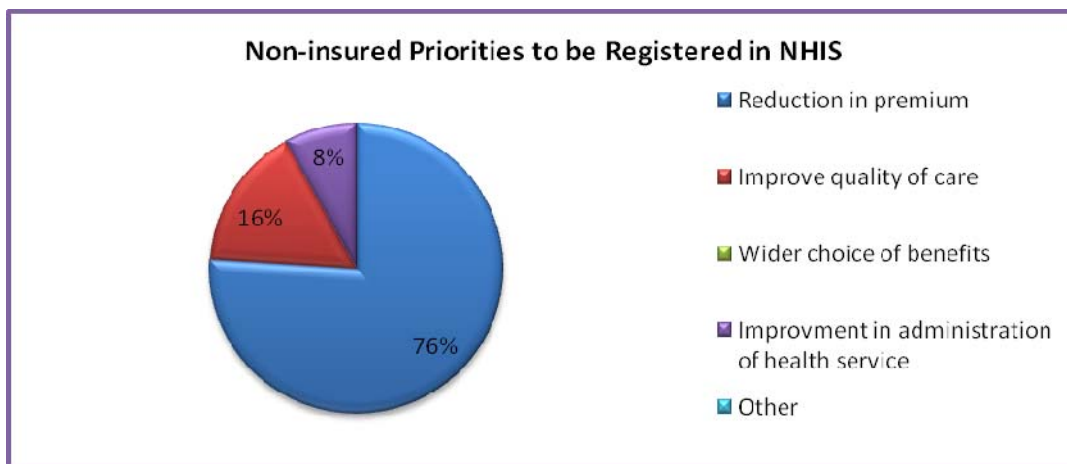
#### 4.6.1 Perception of Non-insured On National Health Insurance Scheme (NHIS)

The non-insured respondents which make up 68% mentioned the reason for not registering in NHIS is because they couldn't afford the cost of premium, 12% of them outlined the health insurance scheme doesn't pay for the full medical care, hence it is not worth it to enroll in the NHIS. While, another 12% of the respondents mentioned they are discouraged from enrolling in the scheme because of the long queues at the health facilities, unless the physical accessibility of health care is improved they believe it is pointless to register in the scheme. The remaining 8% cited the low quality of care at the health facilities as the main stumbling block from registering in the NHIS.



Graph 4.5.1 Source: Individual survey 2010 (Obs. 25 insured and 25 non-insured)

A question was posed to the non-insured as to which priorities should come first in order to register in the health insurance scheme. Out of the total respondents 76% mentioned a reduction in premium would allow them to register in the NHIS. The majority of non-insured don't have an expectation of being exempted in order to register in the health insurance scheme, all they asked for was a reduction in the premium level which is a valid and to some extent justifiable demand, may be this has to do with the culture of the population in which work is valued not only as a source of income but also as a sense of purpose. Everyone is expected to contribute towards meeting ends. It is indisputable that some families may not afford the cost of premium together with the processing fee, however non-insured families indebted themselves to cover huge cost of health care treatment in dire situations. Lack of information about the benefits of health insurance, negligence of non-insured, weak targeting of NHIS, misinformation, and dependence on word of mouth from unreliable sources contribute a great deal in non-insured individuals decision to opt out of NHIS. While, 16% cited an improvement in the quality of service should be a priority, a relatively small slice of the pie which account 8% mentioned that improvement in the administration of health service including the DMHIS could compel them to register in the NHIS.



Graph 4.5.2 Source: Individual survey 2010(Obs. 25 insured and 25 non-insured)

### Summary

The NHIS registration process is progressing at fast pace, a high proportion of the Ghanaian population is youth between the age of 15-24, a closer look at the enrollment figures reveals that almost 50% of those registered in the health insurance scheme are children below the age of 18 years old, followed by voluntary informal sector contributors. This trend is consistent both at the National level and Asokwa DMHIS office responsible for registering the population of Ayigya. The existence of large segment of the population who are exempted from contributing premium level has a serious financial implication because huge amount of funds has to be allocated as a subsidy. It also shows the contribution of the formal and informal sector workers to NHIS fund is only the tip of the iceberg, if it was not for the VAT levy put in place the contribution of formal and informal health insurance subscribers only wouldn't have sustained the system. On the positive side subsidizing the health care needs of the youth and vulnerable group of people should not be seen as a liability rather it an investment with a future return because a healthy population is the greatest asset of any country.

According to the findings education level, age and health condition of the poor insured and non-insured individuals have been analyzed. Though, other factors might have played a role on people's decision to enroll in the scheme, the health condition of individuals suggest a strong correlation. The non-insured individuals positive outlook towards their health condition might have contributed a great deal in their decision not to register under NHIS, as opposed to the insured in which the majority expressed dissatisfaction with their health condition. On the flip side the non-insured are older in age mostly elderly people are unable to travel to the district mutual health insurance scheme offices in order to register and receive the health insurance card.

A great proportion of the insured are protected for inpatient care than outpatient care health care expenditure. The percentile of out of pocket expenditure by the insured is much lower compared to the non-insured who spend a huge chunk of their income for health care cost. The insured cite lack of a comprehensive NHIS which covers all the cost of medical care as the major barrier to accessing health care, while the non-insured suffer from costly health care service. The insured believe the NHIS has improved people's ability to access care, compared to the cash and carry system. The insured and non-insured respondents mentioned that long waiting time and crowded health facilities are major stumbling blocks to access proper health care.

High cost of premium was cited by the insured individuals as the main reason for not registering in the NHIS. Poor household's save money over a long period time or borrow cash from family or friends to access health care once their health condition worsens. Though, most of the poor individuals mentioned the cost of premium as a major barrier, in practice their out of pocket expenditure for treatment is much higher than the required health insurance premium contribution. Long practiced health care seeking habits and lack of knowledge contribute negatively to people's decision to opt out of NHIS. However, the premium level may not be affordable to the very poor as they have to pay a lump sum premium including the processing fee in which most families may not have at their disposal because most of them live from hand to mouth daily survival.

The majority of non-insured respondents mentioned that they can't afford the health insurance premium. This shows the NHIS indigent identification and registration process has serious flaws and the very poor are uncared for. In addition, to the premium level health insurance subscribers except the indigent are required to contribute a 4 ced per person processing fee on top of the premium, which adds another burden to poor families. When asked what factors would push them to register in the health insurance scheme, again a high proportion of the non-insured cited a reduction in the premium level as main factor. It should be noted than some of the non-insured had been registered in the scheme in the past few years, but later on dropped off from the scheme, because they couldn't afford to renew the health insurance card. Especially, in the low income areas people's income swings up and down depending on socio-economic factors, laying down a good system of premium setting which takes in to account the transitional nature of poverty is critical.

#### **4.7 National Health Insurance Premium and Identification of the Indigent**

This section provides an outline of the various NHIS premium level, and a summary of the in depth interview with various District Mutual Health Insurance Scheme (DMHIS) officers.

Since the socio-economic condition of all residents in Ghana are not the same and the contributions must be affordable to all, to ensure that nobody is forced to return in "cash and carry" there could be no standard contribution for all Ghanaians in the country. This also means that contributions payable could vary from one district to other as even the disease burden is also not the same in all the districts. The government provides support to District, Municipal, and Sub-metro Schemes in the country to facilitate the functions of the scheme.

According to the NHIS guideline an efficient social grouping validation will be put in place in all District/Sub-metro to ensure that the real core poor are listed for the government to pay their contribution from the National Health Insurance Fund. Other residents will pay contributions in line with one's ability to pay. By law the core poor or indigent who are considered adults and unemployed, who do not receive consistent financial support from identifiable sources will be exempted from contributing any fund. Other residents will pay in line with their social category as shown in the table below.

<b>NAME OF GROUP</b>	<b>CHARACTERSTICS</b>	<b>MINIMUM CONTRIBUTION</b>
----------------------	-----------------------	-----------------------------

Core group	Adults who are unemployed and do not receive any identifiable and constant support from else where for survival	Free
Very poor  Poor	Adults who are unemployed but receive identifiable and consistent financial support from sources of low income.  Adults who are employed but receive low returns for their efforts and are unable to meet their basic needs	7.2 cedi
Middle Income	Adults who are employed and able to meet their basic needs.	18 cedi
Rich  Very Rich	Adults who are able to meet their basic needs and some of their wants  Adults who are able to meet their basic needs and most of their wants	48 cedi

Table 4.6 Source: NHIS 2009- The contributions payable by the social groupings in the informal sector

#### 4.7.1 Formal Sector Registration in the National Health Insurance Scheme

The government has come out with a better way for workers to join the DMHIS through the enacted law on health insurance. The law makes it mandatory for 2.5% of formal sector workers social security contribution to put in to the NHIS fund to be subsequently disbursed to the DMHIS. Children under the age of 18 years of formal sector employees will also be exempted from paying any contributions provided workers spouses are in the informal sector, if any also pay their own contributions.

The concept behind deducting workers contribution from their social security deduction instead of their salary earnings is to achieve the following.

- Provide free health insurance coverage for workers with in the minimum benefit package.
- To minimize the health care component of workers household budget to enable them have more disposable income during their working days.
- To minimize the health care component of workers household budget when they go on pension to enable them receive free treatment with in the minimum benefit package for the typical old age chronic diseases like diabetes and hypertension and to have more disposable pension income to improve their general wellbeing.
- To ensure that formal sector companies and organizations comply with payment of workers contributions to the SSNIT fund.

#### **4.7.2 The Function of District Mutual Health Insurance Schemes**

An expert interview has been conducted in three mutual health insurance scheme offices such as Bantimar DMHIS in Kumasi the regional capital, Ajesu DMHIS outskirts of Ayigya, Asokwa DMHIS located in the outskirts of Ayigya, particularly responsible for registering the Ayigyian community. A marketing manager, chief DMHS manager, and Public relation officer were interviewed consecutively

It takes on average six months to issue the National I.D; the national card enables patients to receive medical care at any accredited health facility across Ghana. In order to allow health insurance subscribers to start enjoying health care benefit within their area of residence, the DMHIS offices issue a temporary card within a period of three months. The national health insurance card could also serve as a legal identity card in accessing various services within Ghana such as opening a bank account, subscribing to mobile services etc. There are no copayment arrangements in the Ghanaian NHIS, the scheme officers believe that the complaints about the delay in issuing a health insurance scheme is unjustifiable. In addition, the scheme officers are convinced that except for a few diseases health insurance covers the cost of inpatient and outpatient care.

##### ***Registering Clients***

A similar structure in terms of the function of the DMHIS exists throughout the country. The main function of the DMHIS is to register clients for NHIS. The DMHIS has four main sections: The public relation department, its main function is sensitization, education and registration of clients, MIS section responsible for production of I.D cards and feeding the client information in the data base system, Account section responsible for financial aspects of the mutual health insurance scheme. Claim section responsible for vetting and verification of claims submitted by service providers and form part of accrediting service providers through indirectly providing technical support.

According to the NHIS guideline the health insurance subscribers have to pay a minimum 7.2 to 48 cedi according to their socio-economic status. However, most of the scheme offices visited apply a flat rate to determine the premium level. The DMHIS officers admit that due to the difficulty of determining income levels various techniques are applied such as posing certain questions to health insurance subscribers that would enable them to categorize the socio-economic stratification. In some instances poor individuals are overcharged premium, because questions such as ownership of mobile phone and number of air time purchased weekly are used to determine the premium level. However, ownership and use of mobile phones could tell little about the income of an individual. Especially, in a country like Ghana where a large portion of the population is employed in the informal sector, ownership of a cell phone is a necessity for social networking and to conduct small or large scale business activities. In addition, the diaspora population of Ghanaians is huge; many families depend on remittances merely to get by on a daily basis. Usually family members who live abroad cover the cost of cell phones as the only means of communicating with siblings and close family members. The scheme officers acknowledge the difficulty in setting the premium, lack of clear guideline emanating from the top to down, and loose autonomy of the DMHIS offices to determine premium levels in various fashions, might have contributed a great deal to the inappropriate premium setting practices across all DMHIS offices across the region.



Similarly, in Ayigya the community agent responsible for registering health insurance subscribers at KNUST hospital compound mentioned that Age seniority is used as the main criteria to determine the premium level. He further mentioned there is a process of haggling if individuals express their inability to pay the set premium. It is difficult to depend on haggling to get a lower premium, because some poor individuals might even accept whatever premium set in order to receive health care. This raises a serious question whether or not the poor are over charged and the non-poor are paying less amount of money.

In Ajesu DMHIS a town located in the outskirts of Ayigya the DMHIS officer mentioned community leaders were responsible in previous years in registering clients for health insurance. The involvement of community leaders was an effective way of determining premium level and depositing the premium contribution at the bank or the DMHIS offices; since they are part of the target population they can easily determine the socio-economic stratification of individuals for setting premium. According to the scheme officer, the involvement of community leaders did not continue for long mainly due to, corruption, incidence of fraud and mis-use of health insurance fund. At the moment, the Ajesu DMHIS reverted to the old method of determining the premium level on spot based on set of questions posed to health insurance subscribers. Apart from the draw backs of the questions posed to fresh health insurance subscribers, individuals may not provide an honest answer in order to pay a low health insurance premium.

### ***Identifying the Indigent***

The common means of identifying the indigent group of people as mentioned by the various scheme offices is on spot identification procedure, in which the indigent group of people report at the DMHIS office. In difficult circumstances where the scheme officers couldn't decide, the indigents are directed to the social welfare offices where they had to undergo a stringent screening process before they were issued with an exemption card. Though, poverty doesn't always have a face, the bureaucratic procedure to receive the exemption card by itself discourages the indigent from applying for exemption in person. The DMHIS officers believe that the nature of urban life makes it difficult to identify indigent group of people, unlike rural areas where community leaders could attest, whether some people could pay the premium or not. The notion that indigent group of people should come to the DMHIS offices in order to be identified for exemption seems ludicrous. In most instances the indigent group of people are older, less healthy; remain behind in their houses and in most cases they are out of the work force. House to house identification process through the involvement of community leaders or officers of small administrative units should have been the way forward to properly extend the health insurance scheme to the very poor and vulnerable groups of people.

### ***Overseeing Health Care Providers***

The DMHIS offices have the responsibility to oversee the function of NHIS accredited health care providers. In most cases either the chief manager of the scheme undertakes a monitoring activity in order to assess the proper functioning of health care providers to general public. The scheme officers monitor the availability of qualified personnel in place, proper maintenance of health facilities in terms of hygiene and application of required charges for reimbursement etc. The DMHIS offices serve as liaison office between the NHIS head office and the health facilities. This practice seems common throughout the DMHIS offices in Ghana.

A systematic abuse of the system is pervasive in Ghana; the DMHIS officers believe that the reason why insured individuals continue to pay out of pocket for cost of medication is due to

the fact that health care providers are exploiting the system. Particularly, physicians in collaboration with pharmaceutical companies prescribe medicines patients don't need for their diagnosis as well as double billing the patients and the scheme offices for medicines covered under the health insurance scheme. The extensive list of medicines covered under the NHIS also makes it difficult for the poor insured individuals to recall all medicines. In a recent clinical audit conducted in 1 of 3 health facilities that serve Ayigya and the vicinity communities, fraudulent activities were uncovered as the result the health facility was requested to refund the money and legal action had been taken against those who perpetuated such illegal activities.

### ***Prospects and Challenges***

All the DMHIS officers interviewed believe NHIS implementation is hectic task let alone to Ghana but even to countries such as Germany that introduced health insurance a century ago. A significant achievements is scored over the past five years in terms of registering the total population which stands at 70% at the moment, as well as extending health services to pregnant women. One of the main challenges faced is lack of clear information about the income of households to determine the premium level of informal sector workers. In addition, systematic abuse of the system by health care providers as well as moral hazard by health insurance subscribers are the main ones.

## 4.8 Role of Health Facilities After the Introduction of National Health

### Insurance Scheme

This section outlines the role of the health facilities particularly the Kwame Nkrumah University of Science and Technology (KNUST) located adjacent to Ayigya. An expert interview has been undertaken with the administrator of the hospital, Pharmacist and head of public health unit of KNUST hospital. In addition, outcome of the non-participatory observation of the hospital facilities in terms of bedding, cleanliness of the rooms as well as interaction of patients with health workers will be presented.

#### 4.8.1 Profile of the Hospital

The KNUST hospital was established and managed by the Kwame Nkrumah University of Science and Technology, Kumasi. The university hospital serves as a district hospital in the Kumasi metropolis. The hospital is accredited by the medical and dental council and the Ghana College of physicians and surgeons to train housemen and residents respectively.

The hospital was originally established to cater the needs of university students, staff and dependants. Then extended services to include surrounding communities which total up to 150,000. Thus; as of now KNUST hospital is responsible for providing health care service to about 200,000 people. There are 172 members of staff in the hospital, 21 doctors, 1 Optometrist, 1 Administrator, 4 Pharmacist, 2 Medical Assistants, 30 Technician, 67 Nurse, 46 others. With its wide array of services and programmes the hospital is recognized as an accessible and dependable source for quality medical care for the university community and its environs. Some of the services include:-

*Photo 4.7 : KNUST male ward*



*KNUST female ward*



**Outpatient services-** runs a 24 hour service with an attached accident and emergency unit which handles all medical and surgical emergencies.

**Laboratory-** open 24 hours headed by a physician/microbiologist. The unit is equipped with modern laboratory equipment, including micro-processor, blood bank refrigerators, and auto hematology.

**Radiology-** accident and emergency, inpatient service, maternal care, radiology x-ray, laboratory, surgery, obstetrics and gynecology, public occupational health, dental care, eye care, counselling and testing (HIV/AIDS).

**Specialist Clinics-** surgery, pediatrics, infectious disease, hypertension/diabetes, dental clinic, eye clinic.

**Hospital Library-** collection of relevant medical literature and books are stocked at the library for references by medical personnel.



*Photo 4.7.1: Ayigya unaccredited maternal clinic      Accredited maternal clinic in Ayigya*

#### **4.8.2 The Role of KNUST Hospital After the Introduction of NHIS**

An indepth interview was conducted with the administrator of KNUST hospital, head of Pharmacy unit and head of Public Health Service wing of the same hospital about their function in relation to NHIS.

The university as one of the main health service providers in the Kumasi shoulders the biggest responsibility in providing health care service to the population of Ayigya as well as vicinity towns. During the 'Cash and carry' system patient attendance at the health facility fell by 60%. After the introduction of NHIS the number of patients attending the health facility has increased dramatically. In order, to meet the increased demand the hospital begun to run a 24 hour service, doubled the health care workers. Added new health services such as dentistry, eye clinic and accredited for gynecology. The hospital officers are concerned about the continuity of the 24 hour service, unless additional personnel are hired or the national health service personnel are retained to make sure the health facility functions properly.



*Fig:4.7.2 KNUST Hospital*

*KNUST Hospital nurses*

The NHIS is not comprehensive, it covers 90-95% of most illnesses in Ghana, certain medicines are not covered under the scheme. The hospital officers believe in most instances the hospital keeps enough medicines in stock to meet the demand of patients. In case the

medicines prescribed are not available at the hospital stock, a health insurance prescription is provided so that patients could get the medicine free of cost from any accredited chemist or pharmacy.

There have been reports in Ayigya from the non-insured side, that due to high cost of treatment; there have been instances where the hospitals detain non-insured patients who were unable to pay the cost of treatment until they complete the due bill payment. According to the hospital administrator, when such incidents occur, family members of the patient are contacted for payment arrangement of 60-70% of the cost.

In extreme situations non-insured patients are discharged, stringent measures are put in place by the hospital administration, in order to discourage further potential defaults to stay longer in the hospital. This shows that the non-insured are bearing the brunt of the cash and carry system. There are no formal safety nets that could protect them against catastrophic payment. All officers of the hospital echoed similar message, that the NHIS has improved people's ability to receive free care.

A delay in processing claims submitted by health care providers is one of the major challenges faced particularly by the hospital and in general by the health care providers. According to the KNUST hospital administrator the NHIS tariff for diagnosis should be revised. In addition, emerging diseases and new technologies for treatment of certain treatment should be quickly integrated to be covered under the NHIS, so that members don't have to pay extra fee for their health care treatment.

#### **4.8.2.1 Community Based Health Care Activities**

The public health wing of KNUST hospital deals with prevention of diseases, treatment of minor illness, taking care of antenatal patients until they deliver. Immunization, family planning, and child welfare. According to the head of the public health unit monthly an outreach services are conducted in Ayigya. The outreach services include immunization such as BCG, Penavilite-measles and yellow fever at 9 months, family planning education. Insecticide treated (ITN's) are provided at a subsidized price to the public. Health promotion activities are also provided in liaison with grassroot organizations. Together with the national campaign polio vaccination and vitamin A at 6 months are provided to the public. All services at the public health unit including drugs, counseling as well as prenatal and postnatal care services are provided free of charge. One of the main challenges the public health unit experiencing is lack of proper strong physical structure and space.



*Photo: 4.7.2.1 Child care ward*



Many people are observed standing at the public health unit department due to lack of enough space and sitting arrangements. Though, the public health head of the hospital claim that the unit has enough personnel, only few nurses were observed working hard to accommodate the health care needs of large group of people

The head of the public unit mentioned that the introduction of NHIS has improved access to care. The provision of free prenatal and postnatal care coupled with outreach services in the communities has increased the number of women getting pregnant every year. Though, empirical evidence was not provided the hospital health officers attest that no maternal and under five mortality has been reported at the hospital except few referral cases from other areas outside of Ayigya.

### **Summary**

Eventhough KNUST hospital is operating at full capacity at the moment, the hospital has enough rooms, in male, female and children ward. Clean sheets and plenty empty beds were observed in all wards. Which shows the crowdedness is most prevalent in the outpatient care as than inpatient care. Long queues was observed at the dispensary where people wait to receive drugs from the hospital pharmacy. The medical care seeking patients flock to the hospital from different towns in the region because KNUST hospital compared to other health facilities in the region provides comprehensive and qualitative service.

The community based activities such as vitamin A, postnatal and prenatal care and outreach activities conducted monthly are commendable initiatives because it will play a pivotal role in improving the health condition of the population by reducing morbidity and mortality. It should be recognized though unless the living condition and sanitation facilities of Ayigya is improved, investment in health facilities alone will not be a sustainable way of solving the health care problem.

#### 4.9 The Ratification Process and Financing Mechanism of National Health Insurance Scheme

This section outlines the in-depth interview conducted with the former chairman of health committee when the National Health Insurance bill was passed; currently head of KNUST hospital pharmacy. In addition it outlines the various financing mechanisms being implemented.

The Ghanaians had a long vision of introducing health insurance scheme, according to the former MP, since 1997 the Ghanaian health sector had a budget line that says health insurance. The challenge was how to finance the health insurance scheme, given the limited budget resources allocated to the ministry of health. A number of measures were proposed to fill the financial gap, VAT was proposed as the main means of financing mechanism, in addition 2.5% SSNIT contribution of formal sector workers was proposed to finance the health insurance scheme. There was fierce opposition particularly on the proposal to cut 2.5% of workers social security contribution, however the opposition argument was invalid because SSNIT was initially proposed by the first president of Ghana with a vision of introducing a sustainable health insurance in the future.

A number of countries health insurance scheme were reviewed to learn lessons from countries that have introduced national health insurance successfully. In Africa there were few countries such as Tanzania that have introduced NHIS, however there was little lesson to learn as the health insurance scheme was not a success story. Eventually, the attention was focused to European countries, the Ghanaian NHIS first draft was initially set up based on a UK model. Where there was decentralization, bureaucracy, institutions in various regions similar to a position of a regional or district director of health insurance. The UK model was later dropped because it was felt that all the bureaucratic sets ups will erode and drain the funds allocated to NHIS in a form of salaries, office accommodation and all other administrative expenses that come with bureaucracy. Finally, the NHIS was fashioned in a way where the various district health insurance scheme officers would be accountable to the health insurance authority whose main function is to administer funds and register District Mutual Health Insurance Scheme. The NHIS covers around 97% of the Ghanaian drug needs of the population including malaria, hypertension diabetes and chronic diseases.



*Photo:4.8 Akomfo regional hospital Kumasi and maternal clinic dispensary*

A greater proportion of insured individuals from the survey believe the NHIS cover only the inexpensive medicines. The former MP and head of KNUST hospital Pharmacy unit mentioned that all medicines that are imported to Ghana from abroad meet standard requirements. The Ghana health service food and drug stores certify all manufacturers that sell drugs to various institutions. The list of drugs that have been used prior to the introduction of NHIS are still operational to this day, according to the former MP- patients had been stabilized on those types of medicine for so long and changing to new types of drugs was not clinically advisable.

The district mutual health organization have the leverage to provide a comprehensive health care coverage to health insurance subscribers, given members pay a higher premium or a co-payment arrangements are put in place. At present all DMHIS's are providing uniform type of service. The former MP believes that people have the expectation to receive free health care without paying the premium, even in developed countries people contribute towards financing their health care either in a form of premium or taxation. The NHIS needs to strengthen the public awareness activities in order to educate the public about the basic concepts of national health insurance beyond registering clients in the scheme.

#### **4.9.1 The National Health Insurance Financing Scheme (NHIS)**

It is compulsory for every person living in Ghana to belong to a health insurance scheme type. This is in light of the spirit of solidarity, social responsibility, equity, and sense of belongingness. One of the aim of the NHIS financing is to spread the cost of incurring health care costs over a group of subscribers. The more the subscribers, the more the likelihood of available funds to support members when they require health care. The point to make here is that individuals still make payments for services consumed but in a more humane manner as they do not have to carry the burden of health care alone.

About 70% of Ghanaians are employed in the informal sector economy. There are two main problems with this sector. The first is the difficulty that may be encountered in collecting contributions. The second problem, which is critical is that most people at least 40% live below poverty line and may not be able to afford high premiums. The health insurance scheme has been designed with the aim to offer health care access to the poor and vulnerable in society.

In order to make health care accessible and affordable to all, the government has adopted a policy of minimum benefit package as defined by the rules and regulations contained in the legislative instrument. The objective of the minimum benefit package are; to ensure that every citizen of the country has access to a level of health care that provides adequate security against diseases and injury and to promote and maintain good health. Secondly, to secure the financial sustainability of the schemes through protection from excess cost burden all service providers with in the public ,private,mission are mobilised in providing this benefit package, given that they have satisfied the accreditation criteria. The gatekeeper system was put in place as cost control measure in order to provide mechanism for delivery of quality care to the population.

The NHIS has three-tier financing sources which includes formal sector SSNIT contribution. Informal sector contribution and VAT Levy. The formal sector contribute 2.5% of their 17.5% Social Security and National Insurance Trust (SSNIT) contribution whereas the informal contribute a premium with in the range of 7.2 - 48 cedis per annum based on the socio-economic stratification of the subscribers. The contribution levels have an inbuilt cross subsidization mechanism whereby the rich pay more than the less privileged, adults pay on



behalf of children, the healthy cover for the sick and urban dwellers pay more than rural dwellers.

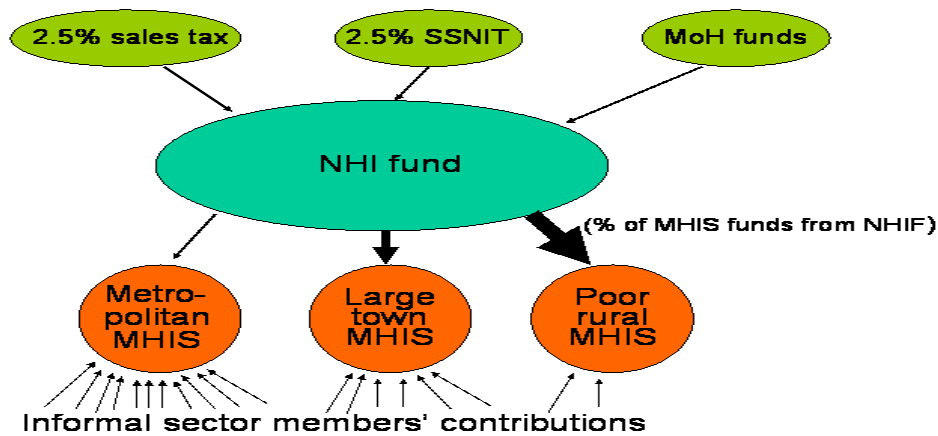


Fig 4.8.1 Source: McIntyre et al (2005)

To avoid having only sick people contributing to the scheme and immediately after accessing health facilities for treatment to collapse the scheme at its inception. Again to ensure that enough money has been accumulated to take care of any possible huge cost burden which may occur at the beginning of the implementation of the health insurance scheme. But it must be noted that the waiting period is only for the initial registration or contribution to the scheme. Only those who don't renew their registration by contributing fully within 13 months of the period of enjoyment of benefits will have to wait for the specified waiting period according to the scheme's constitution. Those who renew the health insurance cards within the 13 months will not have to wait but can continue to enjoy their health care benefits under the scheme.

In addition, to the funding of the scheme by contribution of persons working in the formal and informal sector which constitute only 10% of the NHIS financing scheme. The government has put in place a framework for mobilizing additional funds to support the implementation of the scheme. Government has instituted by law a 2.5% National Health Insurance Levy payable on selected goods and services. The financing contribution from VAT Levy is the biggest slice of the pie which accounts around 90% of the total funding. Fund raised from this source is used to subsidize the contribution of the underprivileged segment of the society and to pay for contributions for the poor and other vulnerable groups.

Accredited health care providers claim reimbursement monthly based on a diagnosis related tariff group. If diagnostic services are to be done, the client takes a Diagnostic card with all the details of the patient filled to the health facility diagnostic center, where the I.D card is again validated by the Diagnostic technician in charge. If the diagnostic service prescribed by the health facility are not available at the health facility, the diagnostic card is given to the patient to go to any accredited diagnostic center outside the health facility for the services.

## **Chapter 5: Conclusion and Recommendation**

### **5.1 Conclusion**

National health insurance scheme as a way of financing health care is a new concept in Africa. Few countries such as Kenya and Tanzania have introduced the scheme nationwide, however only a small fraction of their population are enrolled in the scheme. Ghana introduced the NHIS in 2005, to replace the so called ‘cash and carry’ system in accessing health care at point of delivery. The move to introduce the scheme at its inception stage faced tremendous internal and external challenges, and it was termed as an “ambitious plan” that will collapse in few years time once the funds allocated for the set up of the system are drained out. Despite, all odds the NHIS has been introduced in Ghana, in a country where the high cost of treatment and out of pocket payment for drugs made health care inaccessible to the majority of the population prior to the introduction of the health insurance scheme .

Out of the total population 70% of the Ghanaians are registered under the National Health Insurance Scheme (NHIS). This remarkable achievement was scored due to the relentless sensitization effort of the Government authorities, intensive media campaign, community mobilization and a strong political will of the consecutive Ghanaian governments who saw NHIS as a national priority than a political manifesto that belongs to any political party. Though, the high enrollment rate of the population is a positive step forward it tells only part of the story about the effectiveness of the scheme. The Ghanaian NHIS has improved access to health care, for instance according to the statistics of the KNUST hospital attendance to health facilities shot up by 60%. In 2009 out of 124,886 people who attended outpatient care at KNUST hospital excluding staff and students of the university 66,110 were NHIS subscribers as opposed to only 8,728 non-insured individuals. The high number of enrollment rate in the health insurance scheme among the population in Ayigya and the vicinity towns could have contributed to an increase in outpatient care attendance at the health facilities. In addition, the reduced health care expenditure might have led the insured to enjoy health care benefit as opposed to the non-insured who would find it difficult to access health care as a result of high out of pocket expenditure.

Similarly, in 2009 out of 4,099 people who had been admitted to KNUST from Ayigya and other communities, 1,958 are insured while 1,258 are non-insured individuals. The proportion of non insured admitted in a hospital is higher compared to the ratio who attended outpatient care. One of the reasons attributed to this effect is the non-insured attend health care facilities once their health condition deteriorated which leads to catastrophic health care expenditure. While, the proportion of insured individuals admitted in a hospital compared to those who attended outpatient care is low. Insured individuals unlike the non-insured tend to have a health care behavior of taking more preventive measures and attend health care more often which reduces the probability of serious illness.

The NHIS protects the insured from catastrophic payment particularly for inpatient care. The majority of insured spend money more frequently for outpatient care cost of drugs. Small fractions of the insured have a higher inpatient health care expenditure because there are certain types of diseases that are not covered by the NHIS. One of the formidable challenges of NHIS is to provide a comprehensive coverage of treatment and drugs. The insured households believe that health care cost is affordable to them compared to the cash and carry system. However, the majority of them complain about the high out of pocket expenditure for drugs. In addition, there is a perception among the insured that the NHIS doesn’t cover the quality or high standard costly drugs for treatment of most illnesses. However, in reality some of the most expensive medicines are covered in the health insurance scheme drug list.

One of the rationals for introducing the health insurance scheme was to make health care affordable to the poor and vulnerable group of people. The NHIS guideline stipulates that health insurance subscribers contribute premium based on their socio-economic stratification. One of the biggest challenges in determining the premium level is a very high proportion of informal sector employment in the country with irregular sources of income. The majority of the DMHIS offices apply a flat premium rate based on a set of questions posed to health insurance subscribers or in the case of Ayigya age is used as the main criteria to determine the premium level individuals should pay. The lack of appropriate mode of determining health insurance premium is a clear manifestation that cross subsidization from the rich to the poor is weak in the Ghanaian context. In some instances poor individuals are charged high premium level due to wrong identification process, while the rich benefit from leakage of health care service that was supposed to cater the needs of the poor people at cheaper price.

The NHIS lays a provision of exempting poor individuals who cannot afford the health insurance scheme. There is no active house to house identification of the indigent group of people, those who are unable to afford health care has to report their case at the health insurance registration offices or in some instances they are directed to welfare offices to receive a health insurance card of exemption. Due to the subjective nature of identifying the indigent group of people a number of indigent and elderly group of people are not benefiting from the exemption policy. The community leaders active participation in indigent identification process could have helped to alleviate the problem. The DMHIS officers believe the involvement of community leaders in the identification of indigent group of people as well as in determining the insurance premium level in the past few years has led to corruption and misuse of the system. The issue of misuse of the system and alleged corruption has to do more with the system's failure to execute checks and balances in forming a proper channel of accountability.

One of the determinants of measuring the success of NHIS is by the type of quality service and improvement in health condition of the insured. The main university hospital and maternal clinic in Ayigya expanded various services provided to the public over the past five years, in order to meet the increased demand of the population. However, the health facilities particularly the university hospital are operating over capacity, overwhelmed by a massive number of people seeking health care. The insured and non-insured complain that the health facilities are always overcrowded by patients seeking care, in some cases patients spend the whole day at the health facilities waiting on the long queues. This has led to loss of productive time, patient and nurse friction, deterioration in the quality of service etc. Expanding health service is an uphill task that requires huge investment, training health workers that takes considerable time and administrative capacity which cannot be developed overnight. The university hospital has begun constructing a new structure to increase the physical space of the building as well in attempt to add new health care services. The investment that is being undertaken at the moment could play a vital role in reducing the physical barrier to accessing health care in Ayigya and the vicinity towns in the near future.

The community based services in Ayigya such as outreach under five vaccinations, provision of free prenatal and postnatal care to pregnant women, free delivery including caesarian, has improved the maternal care and reduced tremendously the maternal, neonatal and under five mortality rate. Regardless, there is always room for improvement, the physical structure of the public health unit needs improvement to accommodate more patients and additional staff need to be assigned to meet the ever increasing demand.

The health sector in developing countries; particularly in Africa is financed through donor funding. Dependence in donor funding is a weak and unreliable source of financing health care. Especially in this turbulent age where the major funding countries are experiencing financial downturn, dependence on a single source of financing health care is a recipe for disaster. Ghana incorporates the contribution of insured formal and informal sector, combined with a VAT levy on selected goods and services as a source of funding. The combination of the three source of funding has enabled the Government in the past five years to allocate enough funds for financing the NHIS; exceeded expectations, and dismissed assumptions that NHIS wouldn't be sustainable in the future. Once the economy of the country grows and the informality diminishes through time, there is no doubt the financing scheme will be further strengthened.

National Health Insurance scheme implementation is a challenging task both in developing and developed countries. Though, the level of economic development of any country is not a pre-requisite to introduce health insurance scheme. A good management of the scheme is required to prevent the financial bleeding of the system through systematic abuse. Over the past five years apart from the challenges of registering the population in the scheme as well as expanding health care services. Some health care providers were engaged in Wrongful diagnosis, mismatch between therapy and diagnosis, non-availability of patients folders, fraudulent and wrongful billing, wrongful use of tariffs, and fraudulent charging of patients for claims billed to the NHIS. The National Health Insurance Scheme Council in charge of the NHIS management has taken several measures to deter the systematic abuse of the system through strengthening monitoring and evaluation, clinical audit etc. However, those challenges are not peculiar to Ghanaian NHIS only, even developed countries that have introduced NHIS decades and centuries back still tremble in addressing the systematic abuse of the system by health care providers.

The majority of Ghanaians view and trust the NHIS as a big leap forward in transforming the country's health system. Despite, the draw backs and limitations of the scheme, large portion of the Ghanaian population including children and pregnant women were able to access health care with much ease over the past 5 years. Unlike, most developing countries health sector the Ghanaian NHIS financing mechanism relies solely on funds pooled from internal resource of the country, which ensures the sustainability of the scheme. The NHIS has undergone a series of transformation over the past few years in order to address the health care needs of Ghanaians. At the moment the scheme is far from perfect, however it could serve as a model for other developing countries to embrace NHIS as a means of health care financing. It can be argued that the NHIS implementation has been successful. Whether the NHIS has lived up to its expectations or not is a subjective issue -the final verdict should be left out for Ghanaians to decide.

The field work was conducted in Ghana which is not the native country of the researcher. At first conducting a research in a foreign country seems a challenging undertaking mainly due to cultural difference and a distinct working environment. The articles and various reference books researched, Ghana atelier workshops carried out has enabled the researcher to form a clear idea not only about the research topic but also the history, socio-economic setting of Ghana and the target research area.

The field work begun in the first few days with tour of Ayigya and administering the test joint field work questionnaires. Ayigya is a slum area which is located adjacent to KNUST university, the magnitude of the social problem is visible in every corner of the settlement characterized by congested living condition, lack of proper drainage system, flowing gray water in the narrow streets, few public toilets serving a large group of people etc. Apart from

the time spent in the unhealthy environment to conduct the interview, finding appropriate time to meet the respondents was a challenge as most of the residents work in petty trading activities and other informal sector jobs. Though, the majority of Ghanaians speak English, some of the residents in Ayigya are migrants from the northern region of the country who only speak the local language. In such instances the neighbors who are conversant in English language were helping out in translating the interview process, which reveals the good collaboration spirit of Ghanaians. Most of the data has been gathered from the field work, however the researcher was travelling more often outside Ayigya to conduct the in-depth interview, since all of the DMHIS offices were located in the outskirts of Ayigya. The allotted time was not enough, hence the field work was carried out in a tight schedule.

In general the field work has been an exhilarating experience to be cherished, Ayigya is a place where a number of issues could be researched due to the sheer number of challenges that exist there, in terms of sanitation, housing, education, health education etc. The NHIS has been under implementation for the past five years much has been said in the thesis about its evaluation taking comparison analysis of insured and non-insured in Ayigya. In Ghana the health indicators such as maternal and under-five mortality rates have shown an increasing trend until the period of 2003, even there after the NHIS cannot be a silver bullet to reverse the outcome of those indicators shortly, since the impact of health interventions is felt over a long period of time. In the future further research should focus whether the introduction of NHIS has brought positive changes in the major health indicators in reducing the morbidity and mortality rate of the Ghanaian population.

## **5.2 Recommendation**

- The rationale behind introducing the NHIS was to make health care accessible to all Ghanaians, especially to protect the poor as well as the most vulnerable from catastrophic payment to health care. Due to ineffective premium setting methods applied at the DMHIS offices, cross subsidization is weak in the Ghanaian NHIS. The NHIS should improve the health insurance premium setting procedure and guidelines, through encouraging the involvement of community leaders to achieve the above mentioned objectives.
- The health care facilities in Ayigya as well as other vicinity towns should be expanded to provide qualitative service to patients. Additional, health workers should be trained as well in order to meet the ever increasing demand of the population.
- The NHIS management should improve monitoring and evaluation of health care providers, particularly clinical audit should be undertaken regularly in order to deter the systematic abuse and hemorrhage of the system.
- The identification process of the indigent and elderly should be done through house to house search in order to reach those groups of uninsured individuals. In addition; the premium exemption age limit should be reduced below 70 years in order to capture a great proportion of the elderly who are unable to afford the health insurance premium.
- Though, it is easier said than done the NHIS should cover the cost of all inpatient and outpatient care, especially since Ghana will be an oil exporting country soon, some of the revenues earned from the export should be allocated towards financing a comprehensive health insurance benefit scheme.
- The living condition of Ayigya should be improved in terms of sanitation, housing; drainage and other physical as well as social infrastructures.

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## Annex 1: Individual Questionnaire

<p><b>Purpose of the HH Survey:</b> <i>The purpose of the HH survey is to gather data through responses from the inhabitants of Ayigya which will aid the student in the analyses of his research works for the master's thesis. The results of this survey shall be used solely for academic purpose.</i></p>
<b>Respondent Profile</b>
1. What is your name?
2. How many of your children are below the age of 18? If none skip Q 18
3. How many other dependants (apart from your children) do you have for whom you are financially responsible for health care?
<b>Health</b>
4. How much did you or any member of your family paid for the most recent illness admitted in a hospital?
5. How much did you or any member of your family paid for the most recent illness without being admitted in a hospital?
6. How do you assess your health condition at the moment?  a) Very good      b) good      c) Bad      d) Very bad
7. How much do you spend monthly for your living expense?
8. What are the major obstacles in receiving proper health care in Ayigya?  a) Long distance to health facilities    b) Low quality of care    c) High cost of out of pocket payment    d) High cost of health insurance premium  e) Long Queues in the health facilities    f) Bad attitude of health workers    g) Health insurance  doesn't cover all medical expenses    h) Delay in receiving health insurance card    i) Other

9. What is your perception on the treatment of health care workers at the health facilities?

- a) Not at all satisfied      b) Not satisfied      c) Satisfied      d) Very satisfied

If not satisfied, explain the reasons

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10. What is your perception of waiting time, at the health facilities?

- a) Not at all satisfied      b) Not satisfied      c) Satisfied      d) Very satisfied

If not satisfied, explain the reasons

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11. Do you feel that your household can afford all the health care it needs?

- a) Strongly agree      b) agree      c) Disagree      d) Strongly disagree

12. Were there any cases in which you or any member of your family would have liked to have given medical care to, but didn't?

- a) No      b) Yes

13. If yes, what were the main reasons you or any of your family members did not seeking medical care?

- a) No medical facility available in the area      b) Medical facility fees too expensive      c) Could not afford

the cost of drugs      d) Medical facility has long waiting times      e) Travel costs      f) Could not take time

off work      g) Would lose income from work      h) Receive medical care from



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20. Do you think the NHIS solves the out of pocket payment for receiving health care?

a) All            b) Most            c) Some            d) None            e) Don't know

**Exemption**

21. Do you think there are some people in this locality that should have access to the health facilities without paying insurance premium?

a)Yes            b) No            c) Don't know

If yes, who do you think should have this help? (List some characteristics)?

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22. Who do you think should decide if those people should have free access ?

a) Local Government    b) Mutual district administrators    c) Traditional chief    d) Community members

e). Don't know    f) Other

**Uninsured Individuals**

23. What are the reasons for not registering in the health insurance scheme?

a) There are no health facilities nearby    b) The health insurance scheme doesn't pay for full medical fee    c) Quality of treatment not improved    d) High cost of premium    e) Bad attitude of health workers    f) Long queues in the health facilities    g) Delay in issuing health insurance card    h) Other (specify)-

\_\_\_\_\_

24. If you are considering joining or rejoining in the health insurance scheme what priority would you give to the following?

- a) Reduction in premium
- b) Improve quality of health service
- c) Wider choice of health care benefit package
- d) Improvement in the administration of health
- e) If other,(specify)

\_\_\_\_\_

## **Annex 2: Indepth Interview**

### **Indepth Interview Questions District Mutual Health Insurance Directors**

#### **General Information**

Name of respondent .....

Age .....

Date of Interview .....

1. What is the general overview of the DMHIS function?
2. How many DMHIS are in Kumasi ?
3. What are the main requirements to be enrolled in the NHIS?
4. How much is the premium payment for the different groups of people?
5. What is the main criteria applied in determining the premium?
6. How often do members pay the insurance premium?
7. How long does it take to issue the health insurance card?
8. How many people are enrolled in the health insurance scheme in Ayigya(formal and informal sector)?
9. What is the percentage of subsidy allocated by MoH to the DMHIS ?
- 10.What are the different benefit packages included in the health insurance scheme (cost of admission and medication)
- 11.Does the benefit package for NHIS differ between different group of insured people?
- 12.What is the role of DMHIS in regulating the health care providers?
- 13.What is the main criteria applied to identify the indigent group of people for premium exemption?
- 14.Are the community members involved in identification of the indigent group of people?
- 15.What are the methods applied to process the reimbursement of funds to health care providers under the NHIS?
- 16.Are there incidents of misuse of insurance service by health care providers?
- 17.What are the major challenges in processing the reimbursement of funds to health care providers?
- 18.What are the different financing mechanisms of the NHIS?
- 19.What are the main strategies under implementation to increase the informal sector enrolment?
- 20.People can move in and out of poverty, what are the main mechanisms to evaluate individual's economic status to determine the premium?
- 21.What are the major challenges in identification and registering of the population for insurance?
22. Are there any incidence where the indigent had to pay premiums due to wrong identification process?
- 23.What is the proportion of health insurance members who are not renewing their membership annually?
- 24.What are the main reasons for not renewing the health insurance?

## **In depth Interview with Hospital/Clinic Health Director**

### **General Information**

Name of respondent .....

Age .....

Date of Interview .....

1. How many health employees work in the hospital?
2. Does the hospital has enough medical supplies?
3. How many patients visit the health facility per day ?
4. What is your perception of the NHIS ?
5. What is the average time/minute a patient waits to receive health care?
6. Is the hospital equipped with clean bedding, electricity, ambulance (observation)?
7. Does the health insurance cover full cost of medical treatment (Inpatient and outpatient care)?
8. Are there incidents where patients receive inferior health care because they are members of a health insurance ?
9. What is the number of doctors/nurses who shifted from public hospitals to providers offering care to the insured people?
10. What type of method does the health facility apply to claim reimbursement from the health insurance scheme for service rendered to patients?
11. What are the main challenges in claiming reimbursement?
12. Does the introduction of NHIS increased the number of patients seeking health care compared to the 'cash and carry' system?
13. If yes, what has been done to increase the capacity of the health facility in order to meet the increased demand?
14. Does the health facility/hospital sell ITNs to the population of Ayigya at an affordable price?
15. Does the health facility conduct community based health promotion activities?

### Annex 3: Joint Questionnaires



INSTITUTE OF HOUSING AND URBAN DEVELOPMENT STUDIES  
ERASMUS UNIVERSITY ROTTERDAM – THE NETHERLANDS



#### GHANA ATELIER HOUSEHOLD SURVEY QUESTIONNAIRE

**Purpose of the HH Survey:** The purpose of this HH survey is to gather socio-economic data through responses from the inhabitants of Ayigya which will aid the students of IHS in the analyses of their respective research works for their master’s thesis. The results of this survey shall be used solely for academic purposes.

##### A. Respondent Info

1. Age : \_\_\_\_\_
2. Gender : a. Male/ b. Female
3. Years living in Ayigya : \_\_\_\_\_ years
4. Number of household member : \_\_\_\_\_
5. Position in household :
6. Civil status:
  - a. Married
  - b. Single
  - c. Widow/divorced/separated
7. Level of education:
  - a. University and above
  - b. Secondary/High school
  - c. Junior high school
  - d. Primary school
  - e. Not finished primary school
  - f. No education
8. How often do you eat rice per week?
  - a. None (skip Q9)
  - b. once per week
  - c. 2-3 times per week
  - d. 4-6 times per week
  - e. Above 6 times per week/daily
9. In what quantities do you buy rice:
  - a. 1 meal portion
  - b. 1 kg
  - c. 2-5 kg
  - d. 5-10 kg

e. 10 kg or more ....

##### 10. In what quantity do you buy cooking oil?

- a. 1 small bag (less than 500 ml)
- b. 1 drinking bottle (500 ml)
- c. 1,5 ltr bottle
- d. More than 1,5 liter

##### 11. Primary source of income:

- a. Salaried employment (Answer Q12)
- b. Own business formally
- c. Own business informally
- d. Agriculture
- e. Sub-letting
- f. Remittances
- g. Others: \_\_\_\_\_

##### 12. If you're employed, what kind of employment?

- a. Public Servant
- b. Private Business,
- c. Domestic Servant
- d. Employed in Contract Based
- e. Employed by a Company
- f. Others: \_\_\_\_\_

##### 13. Are you a tenant or a landlord?

- a. Tenant
- b. owner

##### B. Land Ownership

14. Who controls the land that you live?
  - a. Myself
  - b. My spouse
  - c. Landlord (skip Q15)
  - d. Other family members (skip Q15)
  - e. The government (skip Q15)
  - f. The chief (skip Q15)
  - g. I don't know
15. How did you get the land?
  - a. Bought
  - b. Inherited
  - c. Others: \_\_\_\_\_

- a. Statutory (rights from local municipalities) (go to Q17)
- b. Customary (rights from the chief) (go to Q18)
- c. Both (Answer Q17 + Q18)
- d. I don't know (Skip Q17 + Q 18)

##### 17. What statutory property rights do you have?

a. Occupation	
b. Sell	
c. Cultivate	
d. Make physical improvements	
e. Inherit	
f. Pass on to children/ others	
g. Business - open a shop (formal/informal)	

16. Do you have statutory or customary property rights?



h. Manufacturing - making things	
i. Subletting	
j. Others: _____	

18. What customary property rights do you have?

a. Occupation	
b. Sell	
c. Cultivate	

d. Make physical improvements	
e. Inherit	
f. Pass on to children/ others	
g. Business - open a shop (formal/informal)	
h. Manufacturing - making things	
i. Subletting	
j. Others: _____	

### C. Housing Construction and Building Material

19. What is the household configuration?

- Single person
- nuclear family
- extended family
- other: \_\_\_\_\_

20. What is the type of the house you are living in now?

- Compound house-Single storey
- Compound house-multi storey
- Single house-single storey
- Single house-multi storey

21. How many rooms does the household occupy for private family use (so excluding common rooms)?

- 1
- 2
- 3
- 4
- more than 4

22. When was this house built?

- Before 1985
- Between 1986 – 1995
- Between 1996 – 2005
- After 2005
- I don't know

23. Who built this house?

- Self built by family member
- Hired contractor
- Former owner
- Government
- Others: \_\_\_\_\_
- I don't know

24. What materials have been used for the construction of this house? (put a cross in the box of choice)

a. Mud (blocks/rammed)	
b. Timber	
c. Sandcrete	
d. Landcrete	
e. Concrete	
f. cements	
g. brick	
h. Steel/aluminum	
i. Thatch	
j. Stone	
k. Asbestos	
l. Other: _____	

25. Where do you buy the materials from?

a. Manufactured at site	
b. Collected materials that can be reused from other old (demolished) building sites	
c. The nearest market/shop in Ayigya	
d. From another market/shop in Kumasi	
e. Imported from abroad	
f. I don't know	

26. What was the reason for choice this/these materials ?

a. It was/is cheap	
b. It was/is available	
c. It was/is easy to use	
d. It was/is 'the best'	
e. Everyone uses it	
f. It is good for the Ayigya weather conditions	
g. Government gives subsidy for the use of this material	
h. It is mandatory to use the material in house construction	
i. Others: _____	

27. Do you save money?

- Yes (Answer Q 28)
- No (Skip Q28)

28. In general, how do you save your money?

- I have a personal saving account at bank;
- I have a joint saving account at bank with family/friends;
- I save to non-bank institutions, e.g. credit union, susu, loan & saving company
- Not with any bank or institutions; by myself

29. Have any extensions or renovation been made on this house?

- Yes
- No (skip Q30-35)

- c. I don't know/it was done before I moved in (skip Q30-35)
30. Who built the extension?
- Self built by family member
  - Hired contractor
  - Others, specify: \_\_\_\_\_
  - I don't know

31. Which part of the house is an extension?

a. Room/s	
b. Kitchen	
c. Store room	
d. Toilet	
e. Corridor	
f. Verandah	
g. Others:	

32. What is the reason of extension?

a. Increase space for the household	
b. To earn rental income	
c. To start or facilitate business	
d. To use as a storage room	
e. To make private sanitation rooms (toilet, bathroom, kitchen)	
f. Others:	

33. Did you face any problem while doing the extension?

- Yes
- No (skip Q34)

34. What were the problems in realization of the extension?

a. Lack of adequate savings;	
b. Difficulty of borrowing from	

banks	
c. Difficulty of borrowing from other sources	
d. Difficulty of buying building material	
e. I'm not familiar with techniques required	
f. It's difficult to hire people to construct;	
g. Getting a permit from municipality/ chief	
h. Others _____	

35. How was the extension or improvement financed?

a. My savings	
b. My spouse's savings	
c. A loan from bank	
d. Microfinance/Susu	
e. Money from relatives/ friends/ employer	
f. Government subsidy	
g. Donation	
h. Remittances	
i. Others _____	

36. Do you plan to extend your house in the next five years?

- Yes
- No (skip 37)

37. If yes, do you plan to borrow money for the extension?

- Yes
- no

#### D. Water Provision

38. What is your main drinking water resource?

a. piped water supply system in the house or compound (go to Q39)	
b. Public Tap/standpipe (go to Q39)	
c. water from neighbors sellers	
d. Water private water vendor (go to Q40-41)	
e. hand dug well (go to Q 42)	
f. borehole (go to Q 42)	
g. river, streams, ponds	
h. rainwater (go to Q46)	
i. other:	

39. How much is your monthly drinking water bill at an average (from Ghana Water Company Ltd)?

- Less than 10 GH¢
- 10-25 GH¢
- More than 25 GH¢
- Others: \_\_\_\_\_

40. How much do you spend every day on buying water from water vendor and neighbor seller?

- Less than 1 GH¢
- 1-2.5 GH¢
- 2.5-5 GH¢
- More than 5 GH¢, please specify: \_\_\_\_\_

41. How many gallons of water do you use in your household per day? \_\_\_\_\_ gallons

42. How deep is the well/borehole?

- 3-20 meter
- 21-40 meter
- Deeper than 40 meter
- I don't know

43. How do you treat your water?

- Disinfection
- filtration
- Boil
- I do not treat it
- others: \_\_\_\_\_

44. Why do you treat the drinking water?

- a. the water might be polluted
  - b. just in case (prevention for unpredictable issue)
  - c. There is no need to do the treatment
  - d. Others: \_\_\_\_\_
45. Who is responsible for your drinking water resources?
- a. Ghana Water and Sewerage Corporation (GWSC)
  - b. Community Water and Sanitation Agency (CWSA)
  - c. Water Resource Commission (WRC)
  - d. I don't know
  - e. Others: \_\_\_\_\_
46. Do you use rain water harvesting from rooftops as a source for water?
- a. Yes, I use it for drinking
  - b. Yes, but not for drinking (answer 47&48)
  - c. I used it in past but no longer (answer 47&48)
  - d. No, what is it? (go to 49 )
- e. No, I know it but am not interested (go to 49)
47. What type of water storage facilities you use or used?
- a. In 20 liters gallon
  - b. 200 liters drums
  - c. PVC water tanks (Sintex, Poly tanks having.....liters capacity)
  - d. self constructed masonry/RCC water tank
  - e. Others: \_\_\_\_\_
48. Do you know any advantages of RWH?
- |  |  |
|--|--|
| a. It saves my expenditure on water              |  |
| b. I get more water                              |  |
| c. I do not have to waste time in fetching water |  |
| d. I do not know                                 |  |
49. Are you interested in having RWH system in your house?
- a. Yes
  - b. No

### E. Sanitation

50. What type of toilet facility do you use?
- a. Shared Pit latrine (answer 51)
  - b. Ventilated Improved pit latrine (answer 51)
  - c. Bucket (answer 51)
  - d. Flush toilet
  - e. Public toilet
  - f. None of the above
51. How do you empty human excreta when the toilet is full?
- a. Use honey wagon truck
  - b. Physically emptying the pit
  - c. Abandon the latrine
  - d. It does need to be emptied
52. How many people use the toilet?
- a. Less than 5
  - b. 5-10
  - c. 10-20
  - d. More than 20
53. How often do your family members contract diarrheal diseases?
- a. Several times a month
  - b. Once per month
  - c. Once per 3 months
  - d. Once per 6 month
  - e. Once per year
  - f. Never
  - g. Others: \_\_\_\_\_

### F. Solid waste management

54. How do you rate the cleanliness of Ayigya?
- a. Very clean
  - b. Clean
  - c. Average
  - d. Dirty
  - e. Very dirty
55. How is the cleanliness of Ayigya compared with three years ago?
- a. Better
  - b. Same
  - c. Worse
  - d. I don't know
56. How often is solid waste collected per week?
- a. Everyday
  - b. three times a week
  - c. twice a week
  - d. once a week
  - e. less than once a week
  - f. Not at all
57. How do you rate the quality of current solid waste service?
- a. Very poor
  - b. Poor
  - c. Average
  - d. Good

- e. Very good
58. Do you feel that the user fee for solid waste collection is reasonable?
- a. No, it is high

- b. Yes, reasonable
- c. No, it is low

### G. Health Insurance

59. Do you have a health insurance?
- a. Yes b. No (Go to Q63)
60. Which type of health insurance do you have?
- a. District mutual health insurance with premium payment
- b. Social security national insurance trust fund contribution
- c. District mutual health insurance exempted from premium payment
- d. Other: \_\_\_\_\_
61. How long have you been using the health insurance?
- a. Less than 1 month
- b. 1-6 months
- c. 6-12 months
- d. 1- 2 years
- e. More than 2 years
62. Which of the following medical expenses does the insurance cover?

63. Have you or any member of your family stayed in a health facility for medical treatment at least one night over the past year?
- a. Yes b. No
64. What is the most recent disease that you or any of your family members stayed in a hospital ?
- a. Asthma
- b. Diabetes
- c. Heart disease
- d. Eye care
- e. Caesarian delivery of baby
- f. Other: \_\_\_\_\_
65. Have you or any member of your family members received medical treatment over the past month without staying overnight in a hospital?
- a. Yes
- b. No
66. What is the most recent disease that you or your family members have received care without staying in a hospital overnight?
- a. Headache
- b. Tuberculosis
- c. Respiratory problems
- d. eye care
- e. malaria
- f. Other: \_\_\_\_\_

Type of care	Coverage
Health care without staying in a hospital?	<input type="checkbox"/> Full cost of medicine
	<input type="checkbox"/> Partial cost of medicine
	<input type="checkbox"/> Full cost of medical consultation
	<input type="checkbox"/> Partial cost of medical consultation
Health care stay in a hospital for at least one night?	<input type="checkbox"/> Full cost of medicine
	<input type="checkbox"/> Partial cost of medicine
	<input type="checkbox"/> Full cost of stay in a hospital
	<input type="checkbox"/> Partial cost of stay in a hospital

### H. Energy Consumption

67. What sourced of energy do you use?

a.	Firewood (answer Q68-70)	
b.	Charcoal (answer Q68-70)	
c.	Solar (answer Q71)	
d.	Kerosene	
e.	LPG/gas	
f.	Electricity	

68. For what purpose do you use firewood and charcoal?

a.	Cooking	
b.	Heating	
c.	Lighting	
d.	others:	

69. What are the reasons for using firewood and charcoal?

a.	Cheap	
b.	Free	

c.	Can be obtained easily	
d.	Convenient in consumption (i.e. quick cooking time)	
e.	Tradition/habit	
f.	Clean	
g.	No other energy substitution	
h.	Others:	

70. What are the disadvantages of using firewood and charcoal?

a.	Indoor air pollution (smoke)	
b.	Makes the house dirty	
c.	Expensive	
d.	Unstable supply	
e.	Cause fire accident	
f.	Took a long time to gather it	
g.	Cause health problem	
h.	Others:	

71. For what purpose do you use solar energy?

a. cooking	
b. heating	
c. lighting	
d. others:	

72. If you do not use solar energy, why?
- Too expensive
  - I don't know how to get it / Too complicated to use it
  - No need, I'm satisfied with the current power supply
  - No obvious advantages
  - Never heard of it
  - Others: \_\_\_\_\_
73. How many hours per day do you have electricity available?
- Less than 6 hours
  - 6-12 hours
  - 12-18 hours
  - 18-24 hours

**I. Community Participation**

76. What are you most satisfied with in Ayigya?
- Roads
  - Health facility
  - Educational facility
  - House standard
  - Cost of housing
  - Drainage system
77. Which do you need most in Ayigya?
- Roads
  - Health facility
  - Educational facility
  - Better houses
  - Cheaper houses
  - Drainage system

78. Which of the following type of organizations exist in Ayigya?

a. Women's Association	
b. Business Associations	
c. Religious Associations	
d. Football Club	
e. Political Parties	
f. Youth Clubs	
g. Savings Group	

79. How many are you active in?

- Active in One
- Active in two
- Active in three

80. If you want to voice out your needs or complaints within Ayigya, who do you talk to ?

- Landlord
- Leaders of Community Organization
- Chief
- Local Government Representative (Assembly member)

81. Does the government inform you about their projects and/or works in Ayigya?

- Yes
- No
- I Don't Know

82. If government invites you to attend a meeting where you can have a say about your community will you attend?

- Yes (Skip Q85.)
- No
- I Don't Know

83. If No, why?

74. How much do you pay monthly for your electricity bill?

- None
- Less than 10 GH¢
- 10-25 GH¢
- More than 25 GH¢

75. What kind of electric appliances do you use?

a. Light	
b. TV set	
c. Radio	
d. Fridge	
e. Cooker	
f. Water heater	

- Recreational facility
- Toilet
- Solid waste disposal
- Community associations
- Employment

- Recreational facility
- Toilet
- Solid waste disposal
- Community associations
- Employment

h. Residents Association	
i. Landlords Association	
j. Tenants Association	
k. Ethnic Groups	
l. Other: _____	
m. I do not know	

- Active in more than three
- Not active in any

- NGOs
- I never talk about this
- Others: .....

- a. I have little money
- b. I don't have a high position in Ayigya
- c. I have not enough education
- d. I cannot speak the language of the meeting
- e. I have representatives that will go (chief, family member, landlord)
- f. I do not have the time
- g. I don't know
- h. Other.....

**J. Follow-up interview**

84. Are you willing to answer for further questionnaire?

- a. Yes (Answer Q94)
- b. No

85. If Yes, kindly provide us your contact information:

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*Medase!*