

# **THE ROLE OF THE NATIONAL HEALTH INSURANCE SCHEME IN SHAPING EQUITY OF ACCESS TO HEALTHCARE IN GHANA**

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## **Abstract**

In light of recent emphasis on achieving Universal Health Coverage through social health insurance in low income countries, this thesis examined how the National Health Insurance Scheme in Ghana impacts on equity of access to healthcare in Tamale District of northern Ghana. Using mainly a qualitative approach, the thesis specifically examined whether the NHIS promotes equity in health insurance coverage and whether insured members are able to access healthcare equitably. Against this background, four broad findings were identified. Firstly, even though the NHIS improved insurance coverage in the Tamale District, enrolment was largely inequitable because most socially disadvantaged groups/individuals were less able to insure. This was mainly because such groups were predisposed to developing low willingness and low ability to enrol in the NHIS as a result of their individual and community characteristics as well as NHIS and healthcare system factors. Secondly, the NHIS improved the affordability of healthcare services and reduced the risk of catastrophic healthcare expenditure among insured members, particularly insured low income households. Thirdly, while the NHIS improved the financial resources of healthcare providers and the availability of medicines and medical supplies, it adversely impacted on the general quality of healthcare services mainly because the supply of healthcare resources failed to keep up with a high demand for healthcare services by insured members. Fourthly, the NHIS also improved the use of formal care, particularly among insured low income households due to their greater healthcare needs and previous inability to afford the cost of healthcare services. However, due to long waiting times associated with accessing NHIS healthcare, the improvement in financial access to healthcare by the NHIS failed to eradicate the use of 'informal' forms of care (e.g. drugstore, herbal/traditional medicine) among insured members. Based on these findings, this thesis concludes that the NHIS could enhance equity in access to care if there are opportunities created to enable socially disadvantaged groups to enrol in the scheme as well as improve the availability and quality of healthcare services for insured members.

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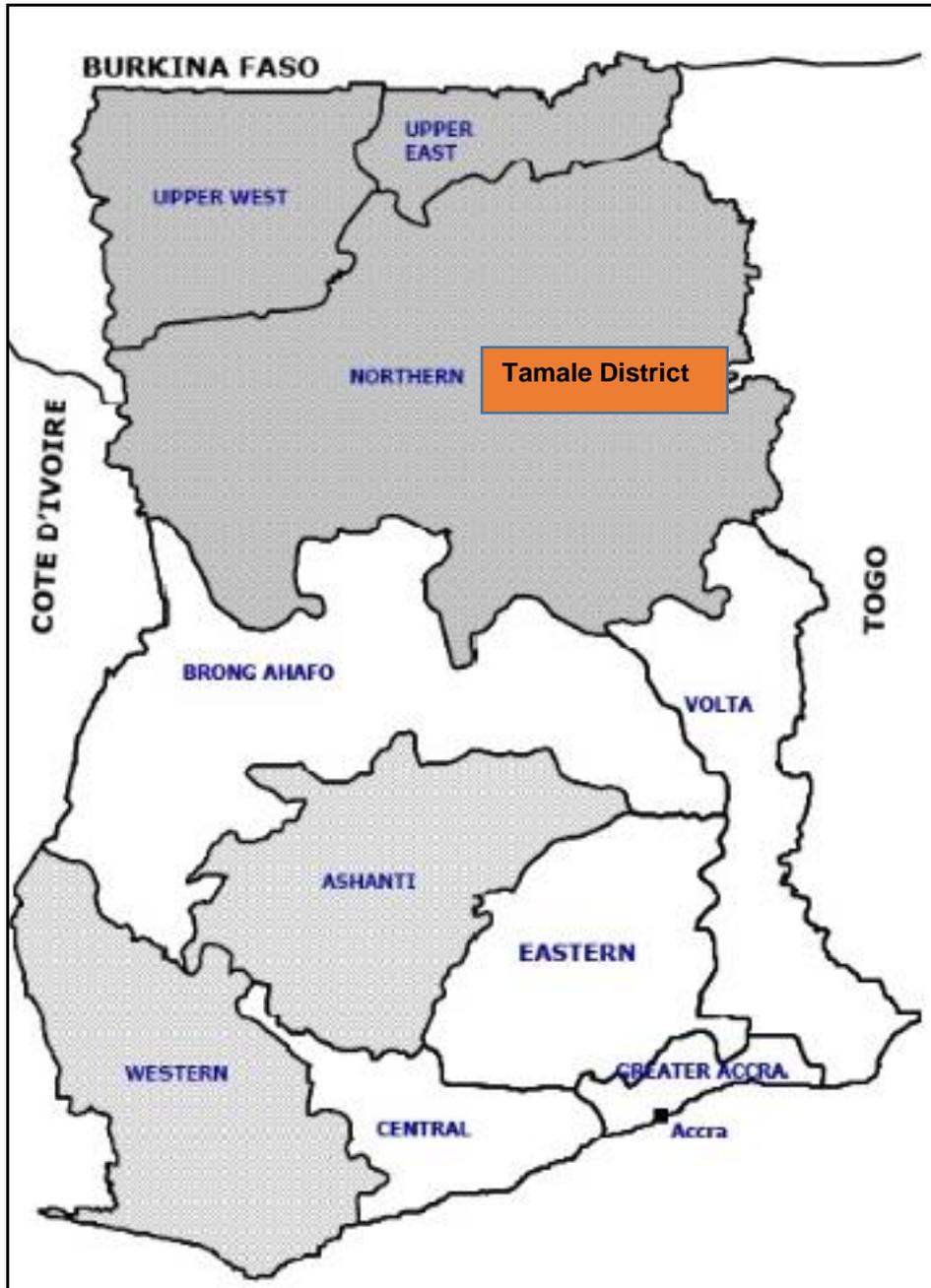
## Acronyms

CBD	Central Business District
CBHI	Community Based Health Insurance
CHPS	Community-based Health Planning and Services
CSO	Civil Society Organisations
DMHIS	District Mutual Health Insurance Scheme
DRG	Diagnostic Related Grouping
FFS	Fees-for-service
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GHS	Ghana Health Services
GLSS	Ghana Living Standards Survey
GSS	Ghana Statistical Services
GSTG	Ghana Standard Treatment Guideline
HIV	Human Immunodeficiency Virus
ICESCR	International Covenant on Economic, Social and Cultural Rights
IFAD	International Fund for Agricultural Development
IGI	Internal Generated Income
ILO	International Labour Organisation
IMF	International Monetary Fund
ISSER	Institute of Statistical, Social and Economic Research
LI	Legislative Instrument
LIC	Low Income Countries
LMU	London Metropolitan University
MHO	Mutual Health Organisation
MOH	Ministry of Health
NCMS	New Cooperative Medical System
NDPC	National Development Planning Commission
NGO	Non-governmental Organisation
NHIA	National Health Insurance Authority
NHIC	National Health Insurance Council
NHIF	National Health Insurance Fund
NHIL	National Health Insurance Levy

NHIS	National Health Insurance Scheme
NMIMR	Noguchi Memorial Institute for Medical Research
NPP	New Patriotic Party
OOP	Out-of-pocket Payment
OPD	Out-patient Department
PCHIS	Private-commercial Health Insurance Scheme
PMHIS	Private-mutual Health Insurance Scheme
PPP	Purchasing Power Parity
SAP	Structural Adjustment Programme
SEND	Social Enterprise Development
SHI	Social Health Insurance
SSNIT	Social Security and National Investment Trust
TMHD	Tamale Metropolitan Health Directorate
UHC	Universal Health Coverage
UK	United Kingdom
UNDP	United Nations Development Programme
UNHCR	United Nations High Commission for Refugees
USAID	United States Aid
WB	World Bank
WHA	World Health Assembly
WHO	World Health Organisation

# PART I: CONTEXT

Figure 1.1 Map of Ghana showing Tamale District ( the study area)



Source: Adapted from Google (2014)

# **Chapter 1: Background of the thesis**

## **1.0 Introduction**

In 2003, the government of Ghana introduced the National Health Insurance Scheme (NHIS), a form of social health insurance (SHI), which aims to facilitate equitable access to healthcare in Ghana. SHI is a mandatory public health insurance system which seeks to protect individuals against excessive healthcare expenditure and promote access to healthcare. This thesis examined the extent to which the NHIS in Ghana promotes equity of access to healthcare.

The purpose of this chapter is to outline the general background of the thesis. It starts with an overview of the debate on the role of SHI in promoting universal health coverage (UHC) in low income countries (LICs). This is followed by a review of the historical health financing context that prompted the introduction of the NHIS in Ghana as well as an outline of the key features of the NHIS. This chapter concludes with a presentation of the rationale, aim and objectives of the thesis.

## **1.1 Reasons for and against SHI in low income countries**

In recent years SHI there has been a growing emphasis on SHI for achieving UHC in low income countries. UHC embodies two key objectives: financial protection against healthcare costs and access to quality healthcare for all (WHO, 2010). One of the key arguments that are made in support of SHI is based around the limitations of other healthcare financing systems in low income countries, including tax-based financing, out-of-pocket (OOP) financing, private health insurance, and community based health insurance (CBHI). Tax-based systems are mainly financed through general tax revenue, and healthcare services under this system are mainly provided free at the point of use. Although they are noted to be highly progressive and facilitate greater equity in access to healthcare (Savedoff, 2004), they have also been criticised to be financially unsustainable in low income settings partly due to the low tax base of these countries (Carrin and James, 2004). In an OOP financing system, individuals make direct payments for healthcare services at the point of use. The World Bank (1993) argued that healthcare user fees ensure efficient service utilisation and the generation of financial resources

for improving the quality of healthcare services. However, evidence suggests that healthcare user fees often create inequities in access to and financing of healthcare services (James *et al.*, 2006; WHO, 2010). In many low income countries, user fees have been found to cause catastrophic healthcare expenditure, low access and poor health outcomes, particularly among low-income households (Gilson, 1997; ILO, 2008; WHO, 2010). Although private health insurance systems are noted for promoting choice in healthcare access, it is argued that due to their high premiums they tend to exclude low income households from accessing healthcare (Drouin, 2008). CBHI systems are voluntary health insurance schemes and, as a result, are unable to achieve greater population coverage (WHO, 2010).

In light of the limitations of the financing systems, SHI has been promoted as a more effective system for achieving UHC in poor countries. The World Health Organisation (WHO) passed a resolution (WHA58.33) in 2005 to urge member states to adopt pre-payment financing systems, particularly SHI (WHO, 2005). SHI is based on the principles of prepayment, mandatory enrolment and risk pooling (see section 2.1). According to Barr (1992), these principles could enable SHI to facilitate greater affordability of healthcare and minimise the risk of household exposure to catastrophic healthcare expenditure. SHI draws funds from a wide range of sources, including tax revenue, premiums and payroll deduction, which could generate greater financial resources for the health system (Carrin and James (2004).

However, several concerns have been raised about the suitability of SHI for achieving SHI in low income countries. Carrin (2003) has argued that poor countries lack certain key conditions that are needed for SHI to succeed. These include high economic growth, a formal labour force, an effective healthcare system, and adequate administrative capacity. Most developed countries which have achieved UHC through SHI did so at a time when they facilitated these conditions (Carrin, 2002). Economic growth is deemed to be critical in SHI systems because it is needed to generate sufficient revenue to subsidise premiums and provide healthcare services (Hsiao and Shaw, 2007). It is also needed to create jobs and enhance household incomes for individuals to afford the insurance premiums (Carrin, 2003). A high formal sector employment facilitates effective enforcement of mandatory insurance uptake, which is a key requirement for SHI to succeed (*Ibid*).

The effective performance of an SHI system requires a well functioning healthcare system. This is important to ensure an adequate provision of quality healthcare services, particularly in light

of the increased demand for healthcare that often accompanies the introduction of SHI schemes. However, most healthcare systems in poor countries lack adequate resources to meet the healthcare needs of SHI schemes. Also, the implementation of SHI reform requires technical expertise in actuarial science, finance and management to design and administer the implementation of a scheme, which are often limited in poor countries.

From an equity perspective, Apoya and Marriott (2011) have noted that the premiums associated with SHI systems create inequities in access to healthcare because low income households cannot afford them. Thus, sceptics argue that the fact that poor countries have lower economic growth, higher informal sector workforce, and limited human resource capacity rules out the possibility of SHI systems working effectively to achieve UHC in those contexts (Carrin, 2002).

The obvious question from the preceding argument is to what extent the NHIS in Ghana is effective at promoting equitable access to healthcare services given that the Ghana lacks some of the SHI pre-conditions. For example, although Ghana has experienced greater economic growth in recent years, with a GDP growth rate of 11 percent and a per capita GDP of US\$1,570 in 2011 (World Bank metadata, 2013), it is still a very poor country. In 2011, the proportion of Ghanaians who lived in extreme poverty (PPP US\$1.25) was around 28 percent (World Bank, 2013). This suggests that a substantial number of the population are unable to afford the insurance premium. Around 80 percent of the workforce is employed in the informal sector (Osei-Boateng and Ampratwum, 2011), suggesting that the mandatory enrolment principle could be difficult to enforce and the NHIS may not be able to achieve greater population coverage. Besides, the healthcare system is characterised by a lack of adequate healthcare resources (MOH, 2008). According to the World Bank (2013), in 2010 there were only 0.9 hospital beds available for every 1000 people and 0.085 physicians per 1000 people in Ghana. Many healthcare facilities, particularly in rural areas, are reported to be poorly equipped (also see chapter 8), with the productivity and competency of health workers very low (Saleh, 2013).

Thus, Ghana appears not to meet the economic and healthcare system requirements for an effective SHI reform, which makes the NHIS an interesting case to study on the extent to which it promotes equitable access to healthcare. The next two sections provide an overview of the

historical healthcare financing context that led to the introduction of the NHIS as well as the design features of the NHIS.

## **1.2 Evolution of healthcare financing in Ghana**

The NHIS emerged as a result of the failure of other health financing systems to generate adequate resources for the healthcare and promote equitable access to healthcare. Ghana has experimented with different healthcare financing policies since independence in 1957. Immediately after independence, a tax-based financing system was introduced and healthcare services were largely free at the point of use (Asamoah-Baah, 1991). This financing policy was facilitated by a foreign exchange reserve inherited by the government from the erstwhile colonial administration as well as a strong tax revenue driven by sound economic growth in the 1950s (Twumasi, 1981). However, due to severe economic downturn in the 1960s, the free healthcare policy was abandoned and replaced with the Hospital Fees Act (Act 387), which introduced user charges for healthcare services and medicines in all public facilities except rural ones. The primary objectives of the user fees policy were to recover the cost of healthcare services, generate additional revenue for healthcare facilities, and prevent frivolous use of healthcare services (MOH, 1971). Although this policy contributed to improving healthcare access in rural areas, it had adverse impact on healthcare access for poor urban households (WB, 1992). As a result of the economic distress, government expenditure on healthcare declined substantially, creating acute shortages in the availability of health workers, drugs and medical supplies in public facilities (*Ibid*).

In an attempt to revive the economy, government initiated a number of economic reforms in the 1980s, which were inspired by the World Bank (WB) structural adjustment policies (SAPs). SAPs were macroeconomic and sectoral reform policies characterised mainly by privatisation, liberalisation, and free market (Khan, 1987). The SAP reforms brought sweeping changes to the financing and delivery of social services in Ghana. Particularly in the health sector, there was greater emphasis on private sector healthcare delivery, a reduction in government expenditure on health, and private contribution to healthcare costs in the form of OOP (Agyepong and Agyei, 2003). As a result, per capita government expenditure on health fell from US\$10 in 1978 to less than US\$8 in 2003 (National Development Planning Commission, 2005). Adams (1996) has noted that the value of these allocations were even less due to the high inflation that prevail

during that period. The low government expenditure on health created immense budgetary pressure on healthcare facilities, which led to widespread informal charges and poor healthcare access (*Ibid*).

A number of major healthcare financing policies were introduced as a result of SAPs. First, the Hospital Fees Regulation (LI1277) was introduced in 1983, which increased hospital user charges from the 1971 levels. This was followed by the Hospital Fees Regulation (LI1313) in 1986. Both policies aimed to generate adequate resources for the healthcare system and promote efficient healthcare service utilisation (WB, 1987). As a result, public facilities were mandated to charge at full cost for healthcare services, except for indigents and individuals with certain communicable diseases who were offered an exemption (Assenso Okyere, 1995; Nyonator and Kutzin, 1999). In 1992, the Hospital Fees Regulation (LI1313) was modified and replaced with the 'cash and carry' system, which required patients in public facilities to make deposit payments before they could receive treatment (*Ibid*). This policy continued until the introduction of the NHIS.

The user fees policies had adverse ramifications on healthcare access and health outcomes, especially among low income households. According to the 1998 Ghana Living Standards Survey (GLSS4), of all respondents who reported to have been ill two weeks to the survey, less than half (43 percent) managed to seek formal healthcare (GLSS, 1998). The average per capita outpatient attendance was as low as 0.45 in 1999 while less than half of pregnant women received professional assistance during delivery in 1998 (WB data, 2013). Between 1990 and 1998, under-5 mortality rate went up by around 24 percent (National Development Planning Commission, 2005). Several studies reported that there was an increased in the prevalence of self medication, use of informal care and catastrophic expenditure across the country due to the user fees policies (Waddington and Enyimayew, 1990; Akosa, 2001). The exemption policy, which was introduced to help the poor, was largely ineffective due to funding shortfalls and a difficulty in identifying poor beneficiaries (Nyonator and Kutzin, 1999).

In light of the deleterious effects of the user fees system, there was an urgent quest by both government and Civil Society Organisations (CSOs) for an alternative healthcare financing system during the late 1980s and the 1990s. Clearly, there was the need for a financing model that would generate sufficient resources for the health system and at the same time promote equitable healthcare access (Seddoh *et al.*, 2011). Owing to Ghana's difficulties with tax-based

financing during the 1960s coupled with a growing momentum of social health financing (in the form of CBHI scheme) in other LICs, there was an obvious attraction to SHI. The choice of SHI was, perhaps, also driven by the fact that it appears to be ideologically versatile given its emphasis on social solidarity and individuals' contributions to healthcare costs through premiums, which may have resonated well with both left and right wing policymakers.

SHI started in Ghana in the form of provider-based micro health insurance schemes in 1989, which were run mainly by mission hospitals. Later, several CBHI schemes called Mutual Health Organisations (MHO) were established across the country mainly by CSOs (Agyepong and Agyei, 2003). The MHOs were generally effective at promoting financial access to healthcare particularly among low income households. However, they could not operate on a larger scale and therefore had limited scope for risk pooling and financial resource mobilisation (Atim *et al.*, 2001). Nonetheless, the relative success of the MHOs in improving healthcare access among the poor suggested that SHI was feasible. In 2000 a process was initiated by the New Patriotic Party (NPP) government to establish a nation-wide SHI scheme, which subsequently led to the introduction of the NHIS in 2003.

Thus, the NHIS emerged from a troubled health financing context, with low access to healthcare services and health outcomes especially among low income households. As a result, it was designed in order to facilitate equitable access to healthcare.

### **1.3 The National Health Insurance Scheme**

The law which established the NHIS (Act 650) was enacted in 2003, and the actual operation began across the country in 2005. The official aim of the NHIS is:

*“...to assure equitable and universal access for all residents of Ghana to an acceptable quality package of essential healthcare.”* (MOH, 2004:33)

Ultimately, the NHIS seeks to improve health outcomes and minimise the prevalence of catastrophic healthcare expenditure (*Ibid*). The NHIS' model combines key features of classical SHI and CBHI. Its key design features are summarised in box 1.1 below.

## **Box1.1 Key design features of the NHIS**

### **The NHIS**

The NHIS consist of several District Mutual Health Insurance Schemes (DMHIS). These are public health insurance schemes which operate at the district level. Every district in Ghana has its DMHIS which all residents are eligible to enrol. The DMHIS originally operated as semi-autonomous schemes, but since 2010 they have merged into a single unitary system called the NHIS (NHIA, 2010). Apart from the DMHIS, there is the Private Commercial Health Insurance Scheme (PCHIS) and the Private-Mutual Health Insurance Scheme (PMHIS), which individuals can join instead of the DMHIS.

### **Governance/management structure**

- The National Health Insurance Council (NHIC) (at the top) - responsible for governance issues.
- The National Health Insurance Authority (NHIA) (second) - responsible for managing the NHIS and the National Health Insurance Fund (NHIF).
- The DMHIS, the PCHIS and the PMHIS (at the base). These also have their own governance and management structures.

### **Sources of funds**

These include:

- 2.5 percent of VAT charged as National Health Insurance Levy (NHIL);
- 2.5 percent deduction from the Social Security and National Investment Trust (SSNIT) contribution of formal sector workers;
- Government annual budgetary allocations;
- Monies accrued from investments on NHIS capital;
- Gifts and donations from donors;
- Premium contributions

### **Membership**

Membership is mandatory by law for all residents in Ghana, except members of the army and police force. Membership is based on payment of a one-off registration fee and a yearly premium.

### **Premium exemption**

The NHIS provides premium exemption for the following categories of people:

- Pensioners (former SSNIT contributors);

- Children under 18 years;
- Elderly ( persons above 70 years);
- Indigents; and
- Pregnant mothers (this introduced in 2008).

### **Benefits package**

These include:

- Free medicines as specified by the NHIA;
- Free healthcare services except: rehabilitation other than physiotherapy; appliances and prostheses; cosmetic surgery; HIV retroviral drugs; assisted reproduction; echocardiography; photography; angiography; orthoptics; kidney dialysis; heart surgery; brain surgery; cancer treatment other than cervical and breast cancer; organ transplantation; treatment abroad; medical examinations for visas etc.; VIP wards; and mortuary services.
- No co-payments and deductibles. No cap on the amount of benefit services an insured member can receive in a year.

### **Service providers**

- Service providers are accredited by the NHIA with a five year renewable license.
- Service providers include both private and public.
- Providers are supposed to be reimbursed within four weeks of submitting claims to the NHIA.
- The current provider payment system for reimbursing healthcare services is the diagnostic related grouping (DRG) while fees-for-service (FFS) is used for reimbursing medicines.

Source: Adapted from NHIS Act (2003) and NHIS Regulation (2004).

According to the NHIA (2011), a total of 8.2 million, representing 33 percent of Ghana's population, were enrolled in the NHIS in 2011. This clearly shows that even though the NHIS is mandatory in principle, the majority of the population are not enrolled. The reasons for the low coverage of the NHIS are many, including demand and supply-side constraints which are discussed in chapter 6. The majority of NHIS members belong to the exempt group, accounting for about half of the total membership, which raises financial sustainability concerns. Informal and formal sector workers, who make financial contributions to the NHIS, represented around 36 percent and 5 percent of the total NHIS membership respectively in 2011 (*Ibid*). There is no much data available on the socioeconomic profile of NHIS members. However, according to the

Citizen's Assessment Survey, only 29 percent of the poorest population were enrolled in the NHIS in 2008, compared with 64 percent of the high income population (National Development Planning Commission, 2009). These figures indicate the presence of inequities in the NHIS coverage, and suggest the need for an empirical examination of the performance of the NHIS, particularly in relation to equity in access to healthcare. This is examined in detail in chapters 6, 7, 8 and 9 of this thesis.

## 1.4 Rationale

This thesis seeks to understand how the NHIS, as a healthcare financing system, enables equity in access to healthcare. This aim is primarily motivated by several factors as discussed below.

In view of the recent emphasis on using SHI to promote UHC in poor countries, which lack the preconditions for an effective SHI, it is imperative to understand how SHI schemes that deviate from classical SHI work in terms of facilitating healthcare access. This is particularly important to ensure that SHI schemes are properly designed to suit poor country contexts. The NHIS partly deviates from classical SHI model because it is based on voluntary enrolment (see section 2.1), which could compromise its ability to achieve greater insurance coverage and access to care. In addition, the predominantly informal sector workforce and the weak healthcare system in Ghana deviate from the key requirements of an effective SHI system (see section 1.2). Thus, empirical evidence on the performance of the NHIS would shed light on the extent to which SHI is appropriate in low income countries.

The performance of SHI depends on the extent to which equity of access to healthcare is effectively assessed. Regrettably, most studies on the impact of the NHIS on healthcare access are limited in terms of how *access to healthcare* is conceptualised. They mostly use specific parameters of access such as insurance coverage (Jehu-Appiah *et al.*, 2011) and healthcare utilisation (Mensah *et al.* 2010; Brugiavini and Pace, 2010; Blanchet *et al.*, 2012), which provide a rather narrow perspective on what access to healthcare actually entails. Penchansky and Thomas (1981) have argued that healthcare access entails several interrelated dimensions - affordability, availability and utilisation of healthcare services – which need to be examined together in order to obtain a holistic perspective on access to healthcare.

Studies on the impact of the NHIS on healthcare access also tend to focus on the demand side of access without much consideration for the supply-side. However, research has shown that most healthcare providers in Ghana rely on the NHIS for much of their income to purchase medical inputs (Witter and Garshong, 2009). Thus, the NHIS is likely to have considerable influence on the availability and delivery of healthcare services. Indeed, the effective availability and delivery of healthcare services are critical for ensuring that individuals are able to transform their insurance membership into 'effective' access (Andersen, 1995). Therefore, an assessment of the effect of the NHIS on the supply-side function of healthcare, which is discussed in chapter 8 of this thesis, is key to providing a comprehensive insight on the role of the NHIS in access to healthcare.

This thesis also assesses the equity aspects of the impact of the NHIS on access to healthcare because 'equity' is a key objective of the NHIS and the healthcare system in Ghana. The user fees financing system that preceded the introduction of the NHIS had substantial adverse effects on low income households and therefore the equity impact of the NHIS is critical to its overall performance. Despite the importance of equity, not many studies have examined it, which is partly due to the conceptual difficulties in defining 'equity in healthcare' (Mooney, 1986). Most studies tend to be based on the horizontal equity principle, which defines equity in healthcare as equal healthcare for those in equal need (Van Doorslaer *et al.*, 1993). While such a conception is useful, some researchers have argued that it conflicts with commonly held views on equity (LeGrand, 1991; Pereira, 1989), and therefore fails to provide an accurate perspective on the effect of the NHIS on healthcare equity. Also, the horizontal equity definition is difficult to apply accurately in practical research, particularly in qualitative research, due to difficulties in measuring its sub-concepts such as 'equality' and 'health need' (Mooney, 2009). The debate around various equity definitions is discussed in detailed in section 3.2.2.

In addition, most horizontal equity studies tend to focus on healthcare outcomes (e.g. healthcare service utilisation) and use quantitative econometric approaches. However, such approaches are not particularly effective at unearthing the actual factors that shape inequities in healthcare access, including individual and structural factors that constrain individuals' healthcare seeking behaviour. LeGrand (1991) has argued that the horizontal equity principle provides a narrow view of equity because it fails to account for the totality of the factors that constrain individuals' healthcare access. Based on this, he proposed that healthcare equity should be defined in

terms of individuals' 'choice sets', which entail the opportunities and constraints that affect the use of healthcare (see section 3.2.2.3). Therefore, it is important for an assessment of the equity impact of the NHIS to go beyond quantifiable healthcare outcomes and to examine 'hidden' factors that shape these outcomes, which is the approach adopted in this thesis.

## 1.5 Aim, objectives and method

In light of the above limitations, this thesis aims to ascertain how the NHIS shapes equity in access to healthcare. Specifically, it focuses on assessing the extent to which the NHIS ensures equity in health insurance coverage and whether insured members have equitable access to healthcare. The objectives of this thesis (detailed below) were influenced mainly by Penchansky and Thomas' (1981) healthcare access dimensions – affordability, availability and delivery, and utilisation. These dimensions cover most aspects of healthcare access and therefore provide a comprehensive perspective on the relationship between the NHIS and equity in access to healthcare.

**Objective 1:** To ascertain to what extent the NHIS impacts on the equity of health insurance coverage.

*Research questions:*

- Who is enrolling in the NHIS?
- Is enrolment in the NHIS equitable?
- What key factors shape equity or inequity in NHIS coverage?

**Objective 2:** To assess if and how the NHIS has impacted on the affordability of healthcare.

*Research questions:*

- How has the NHIS affected the affordability of healthcare by insured members?
- What are the equity aspects of the NHIS' impact on the affordability of healthcare?

**Objective 3:** To examine if and how the NHIS has impacted on the availability and quality of healthcare services.

*Research questions:*

- How has the NHIS affected the availability of healthcare services?
- How has the NHIS affected the quality of healthcare services of providers?
- What are the equity aspects of the NHIS' impact on the availability and quality of healthcare?

**Objective 4:** To examine how the NHIS has impacted on the utilisation of healthcare services.

*Research questions:*

- How has the NHIS affected the healthcare seeking behaviour of insured members?
- What are the equity aspects of the NHIS' impact on the utilisation of healthcare services?

This study focused mainly on healthcare rather than health. 'Healthcare' refers to the diagnosis, treatment and prevention of illnesses or diseases and the resources associated with these, while 'health' denotes the state of physical, mental and social well-being of an individual (Callahan, 1973). The equity aspect of healthcare access was assessed based on Braveman and Gruskin's (2003) conception of equity as the absence of systematic differences in healthcare access skewed against socially disadvantaged groups (see section 3.2.2.4). This approach is effective in exploring issues around the healthcare access of socially disadvantaged groups who are supposed to be the main focus of the NHIS.

This study was conducted in the Tamale District (in Northern Ghana) and used mainly qualitative research techniques due to its explorative nature and the fact that the study topic (equity in access to healthcare) is shaped by social factors. The Tamale District is one of the poorest areas in Ghana where health insurance coverage and access to healthcare are relatively very low (NHIA, 2011; UNDP, 2010) (see section 5.1). Also, study area provided an environment where a diverse range of individuals with different social, geographic and economic characteristics could be sampled and their experiences on healthcare compared. A purposive sampling technique was used to select the respondents for this study who included insured and uninsured individuals, healthcare providers, and NHIA staff. The experiences of these respondents were examined through semi-structured interviews and focus group discussion. The methodology for this study is discussed in detail in chapter 5.

## 1.6 Outline of the thesis chapters

This thesis is divided into five major parts. Part II consists of three chapters and focuses on the literature review and conceptual framework of the thesis. Chapter 2 examines the nature, principles and functions of SHI and how these are manifested in low income settings. One of the key themes that emerged from this chapter is the fact that the NHIS does not strictly conform to classical SHI, even though it is more of an SHI system than other health financing systems. The chapter further demonstrates that the nature of an SHI scheme's impact on equity of access to healthcare depends largely on the scheme's design features, particularly in respect of its revenue generation, risk pooling, purchasing and service delivery functions. Lastly, it discusses key theories that explain health insurance uptake, including utility theory, cumulative prospective theory, state dependent utility theory, and time preference.

In chapter 3 the concepts of 'access' and 'equity' in healthcare are extensively discussed. The chapter outlines the theoretical underpinnings of the concepts with the view to finding a suitable definition for assessing equity of access to healthcare in Ghana. It focuses mainly on three models of access – behavioural model, fit model, and empowerment model – and argues that although the models provide useful perspectives on access, each single model is unable to explain the complexity of healthcare access on their own, and suggest the need for a complementarity between the three models in order to effectively examine healthcare access in the Ghanaian context. On healthcare equity, the chapter examines different equity theories and definitions and concludes that egalitarianism and Braveman and Gruskin's conceptions of equity resonate well with the principles and objectives of SHI (and the NHIS in particular) and therefore effective for examining the equity impact of the NHIS on healthcare access.

Chapter 4 presents a conceptual framework to explain the relationship between SHI and equity in access to healthcare. The framework is built around the conceptualization that healthcare access entails four dimensions – insurance coverage, affordability, availability and delivery, and utilisation - and that the NHIS shapes equity of access through these dimensions.

Part III (chapter 5) is devoted to the study methodology and methods. The first part of the chapter discusses the social, economic and health profile of the study location (Tamale District). This is followed by an outline of the research techniques, including the sampling approach,

research process (choice of study community, community entry, and piloting), data collection and data management. Lastly, the chapter considers the ethical aspects and limitations of the study.

Part IV presents the findings of the study and discusses the research objectives. The chapters are structured along the objectives of the thesis. It begins with chapter 6, which examines the extent to which the NHIS has shaped health insurance coverage in Tamale District. Particularly, it looked at the patterns of NHIS enrolment and examined the reasons for the disparities in enrolment among socioeconomic, occupation, gender and geographic groups. Using the Braveman and Gruskin's conception of equity, the chapter concludes that the uptake of the NHIS insurance in Tamale District is inequitable. It further argues that the uptake of NHIS insurance is influenced by the willingness and ability to enrol, and that socially disadvantaged groups are predisposed to having a lower willingness and ability to enrol in the NHIS.

In chapter 7, the impact of the NHIS on the affordability of healthcare is discussed. It confirms that the NHIS has improved the affordability of healthcare for insured members, particularly low income households. Chapter 8 addresses the question of the extent to which the NHIS impacts on the availability and quality of healthcare services. It concludes that even though the NHIS improves the financial performance of healthcare providers, it negatively impacts on the quality of healthcare services mainly due to an increase in the demand for healthcare services which is not matched with appropriate supply of healthcare resources.

Chapter 9 is the last of the findings and discussion chapters. It examines the healthcare seeking behaviour of insured members and probes the extent to which it has been affected by the NHIS. It shows that the NHIS improves the use of formal healthcare services. It also considers issues of moral hazards in healthcare, and argues that moral hazard is marginal among insured NHIS members in the Tamale District.

Part V (chapter 10) presents the conclusion of the thesis. It provides a reflective account on the key findings of the thesis and discusses these in relation to the research objectives. It concludes that the NHIS has the potential to address inequities in access to healthcare if membership coverage is improved. It also presents the policy implications of the thesis findings as well as recommendations for future research.

## **PART II: LITERATURE REVIEW**

### **Chapter 2: Social health insurance in low income countries**

#### **2.0 Introduction**

As the previous chapter has shown, one of the key concepts in this thesis is social health insurance (SHI). Therefore, this chapter examines the nature, principles and functions of SHI. It is structured as follows: the next section examines the nature and principles of SHI with the view to locating the NHIS within the SHI framework. This is followed by an examination of the key functions of SHI and how these influence equity in access to healthcare. The chapter concludes with a review of theories that explain the uptake of health insurance in low income countries.

#### **2.1 The nature and principles of social health insurance**

SHI originated in Germany in the 19<sup>th</sup> Century as voluntary insurance scheme for workers, and later expanded to cover non-workers. SHI is a form of health insurance system<sup>1</sup> underpinned by social principles. Health insurance is different from other health financing systems such as out-of-pocket payment because it is based on prepayment and risk-sharing of healthcare cost (Besley, 1989). Individuals purchase health insurance because they are fundamentally risk averse and therefore seek to minimise their exposure to the financial risk associated with illness (Morris *et al.*, 2007). From a more practical perspective, Nyman (1999) argued that individuals purchase health insurance to enable them afford unmet healthcare needs and protect themselves against catastrophic healthcare expenditure. There is no standard definition for SHI, although it is often considered as a health insurance system driven by social objectives. But such characterisation seems too broad and makes SHI indistinguishable from other 'non-commercial' health insurance systems. The WHO (2003:5) provides a rather less specific definition of SHI as: "a financial protection mechanism for healthcare through health risk-sharing and fund pooling for a larger group of population". By this definition, SHI is likely to be conflated

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<sup>1</sup> Health insurance systems can be divided into three broad categories: private health insurance, community-based health insurance, and social health insurance.

with other health financing systems that are based on ‘fund pooling’ and ‘risk sharing’, especially CBHI and tax-based financing.

In an attempt to define SHI, Gottret and Sheiber (2006) have provided certain core features (principles) to delineate SHI from other health financing systems. These include: compulsory enrolment, risk independent and transparent contribution, explicit benefit package, provider-purchaser split, and social solidarity. However, while these principles are useful, they raise questions over the extent to which the so-called SHI schemes in low income countries (including the NHIS) are actually SHI, and whether these schemes can be evaluated against SHI standards on access to healthcare.

Mandatory enrolment means that all eligible individuals (mostly the entire population) are legally obliged to enrol in the SHI scheme. This principle is often enforced by automatically enrolling eligible individuals with their contributions deducted from their wages. In theory, this principle should distinguish SHI from CBHI, which is based on voluntary membership. But in most ‘SHI’ systems in LICs, mandatory enrolment is difficult to enforce particularly among informal sector workers and thus making it a weak criterion for defining SHI in low income settings. In many countries, this has often resulted in the establishment of a two-tier SHI system with one scheme focusing on formal sector workers where enrolment is mandatory, and the other for informal sector workers where membership is voluntary (McIntyre, 2012). In Ghana, although enrolment in the NHIS is supposed to be legally compulsory for all residents, only formal sector workers have successfully been obliged to enrol. Enrolment among informal sector workers has been largely voluntary (Witter and Garshong, 2009).

The transparency and risk-independent nature of funds in SHI separate it from tax-based system and private health insurance respectively<sup>2</sup>. The ‘risk independent contribution’ means that individuals’ contribution towards healthcare cost in SHI is based on their ability to pay (i.e. level of income) rather than their health risks as is the case with private health insurance. On the other hand, ‘transparent contribution’ implies that SHI funds are drawn from clearly defined sources, such as payroll tax and premiums, and are not subjected to government budgetary

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<sup>2</sup> The premiums that individuals pay in private health insurance schemes are calculated based on their risk levels. In tax-based financing system, funds for the health system are derived from general tax revenue and are subjected to annual budgetary allocations by government.

allocations as is done in tax-based financing systems (Carrin and James, 2004). However, these principles are hardly applicable to SHI systems in LICs. In Ghana, the bulk of the NHIS funds came from tax revenue (75 percent) in 2011. Premium and payroll contributions accounted for only around 25 percent of the total funds in 2011 (NHIA, 2011). Although the tax revenue is derived from hypothecated tax (i.e. the National Health Insurance Levy), the transparency of such funds is affected by government's control over the expenditure of the funds (Schieber *et al.*, 2012). This raises the question of whether the NHIS is not actually a tax-based system (Witter and Garshong, 2009). Nonetheless, given that a quarter of the NHIS' funds is sourced from clearly defined sources (premium and payroll deduction), many people could still consider the NHIS as an SHI as a result.

Also, in SHI membership (and financial contribution to the SHI fund) is linked with an entitlement to a clearly defined benefits package (Hsiao and Shaw, 2007). This is different from tax-based financing where health service entitlements are loosely defined and based on nationality or some other criteria other than premium contribution. However, in most LICs the enforcement of the right to a benefits package is often compromised by a lack of healthcare resources. For example, in Ghana, although the NHIS sets out a clearly defined standard benefits package for all members, access to such services are affected by a paucity of healthcare resources and poor awareness of the benefit package (see chapter 8).

SHI systems are mostly managed by an independent or a semi-autonomous agency. Health financing and service delivery roles are separated and managed by separate bodies (purchaser-provider split), typically with the Ministry of Health and the private sector responsible for service delivery while the SHI agency mobilises and manages the SHI fund. It is argued that such purchaser-provider split enhances efficiency and effectiveness in service delivery within the healthcare system (Saltman, 2004). An SHI scheme could be a single or a multiple agency system depending on its risk pooling arrangement, and this has implications for healthcare access (see section 2.2.2). In Ghana, the NHIS agency (the National Health Insurance Authority) is separated from the health services authority which together with the private sector are paid by the NHIA to provide healthcare services for insured members.

SHI is also supposed to be based on social solidarity and collective responsibility for individuals' healthcare needs. This enables SHI systems to cross-subsidise healthcare cost from the rich to poor and from high health risk individuals to low health risk individuals (Smith and Witters,

2004). Based on this principle, SHI is similar to tax-based financing but different from private health insurance, which is based on individual responsibility for healthcare costs. In Ghana, social solidarity in the NHIS is enforced through a progressive contribution system based on hypothecated tax and sliding premiums (at least in principle). In addition, certain vulnerable population groups (indigents, elderly and minors) are exempted from making financial contributions to the NHIS fund even though they are given full entitlement to the NHIS as anyone else.

Based on the above principles, SHI could be defined as a mandatory health insurance system based on membership contribution and entitlement to explicit benefits package for members. Although the NHIS does not strictly conform to this definition, it still seems to be more of an SHI than other health financing systems such as CBHI, private health insurance, tax-based system, and out-of-pocket financing. This is because, to some extent, the NHIS is organised around the principles of social solidarity, mandatory enrolment (among formal sector workers), purchaser-provider split, and a clearly defined benefit package. Also, a significant amount of the NHIS' funds is derived from payroll contributions and premiums. But an evaluation of the NHIS' impact on healthcare access needs to take into account its limitations as a non-classical SHI system.

## **2.2 Functions of social health insurance**

Having considered the principles of SHI and established that the NHIS is largely (but not fully) an SHI system, attention is drawn here to how SHI shapes equity of access to healthcare through its revenue generation, risk pooling, purchasing, and healthcare provision functions. The discussion in this section is crucial because it would reveal the various pathways through which SHI impacts on healthcare access and based on which a conceptual framework can be developed for the thesis.

### **2.2.1 Revenue generation**

Revenue generation entails the mobilisation of funds to finance health service provision. In SHI systems, the primary objective is to generate adequate funds in an equitable and efficient manner (Preker and Carrin, 2004). Funds are typically raised from payroll deductions,

premiums, and hypothecated/general tax (*Ibid*). Each of these sources has its equity implications.

Payroll deduction entails deductions from employees' wages and taxes paid by employers on employees' wages. This source of financing is noted to be cost-effective at generating revenue because it relies on existing tax administration for revenue collection and ensures that the contributions of formal sector workers are effectively captured (Hsio and Shaw, 2007). Goddard (2000) contends that payroll deductions allow employers and employees to contribute additional financial resources to the healthcare system more than they would have done in a tax-based system. Payroll deductions are relatively more progressive (i.e. equitable) because contributions are based on a standard percentage of wages so that higher income earners end up contributing more than lower income earners (Akanzili *et al.*, 2011).

However, payroll deductions could create disparities in insurance coverage that are skewed towards formal sector workers at the expense of informal sector workers. This is because it allows the former to earn automatic membership into the SHI scheme while the latter's membership is subjected to yearly premium payment (Savedoff, 2004). The effectiveness of payroll deduction as a source of financing for an SHI scheme is dependent mainly on the presence of a large formal sector labour force, which limits the extent to which it can be applied for generating income for SHI schemes in low income countries, given that most people work in the informal sector. In many low income countries, government is the largest employer of formal sector workers and therefore the reliance on payroll deduction could lead to the allocation of much of government health budget to finance the SHI contribution of formal sector workers. This would leave fewer resources for government to address the healthcare needs of the poor who are mostly employed in the informal sector (McIntyre, 2012).

In light of the limitations posed by the informal employment structure of low income countries, most SHI schemes tend to rely on premiums to generate funds for health service provision. SHI premiums are mostly calculated based on either average community health risk (i.e. community-rated premiums) or level individuals' income (i.e. income-rated premiums). Community rated premiums have limited capacity for cross-subsidisation and are financially inequitable because contributions are standardised for everyone in the community regardless of their ability to pay (McIntyre, 2012). However, they are relatively cost-effective to administer, particularly in predominantly informal economic settings (*Ibid*). On the other hand, income-rated premiums are

more progressive because contributions are based on individuals' ability to pay (Carrin and James, 2004). But the downside is that they are mostly expensive to administer particularly in informal economic settings where there are not sufficient data on peoples' incomes (Jehu-Appiah *et al.*, 2010, McIntyre, 2012). In Ghana, the NHIS Act (2003) stipulates that premiums should be graduated according to people's income. But due to lack of income data on informal sector workers, a flat-rate premium is set for all informal sector workers and this has been noted to undermine the equity of the NHIS' premium financing system (Akanzili *et al.*, 2011).

Policy makers are often faced with the challenge of creating a balance between sufficient revenue generation and equitable membership coverage in an SHI scheme. As a 'social' insurance scheme, there is often emphasis on promoting greater equity and therefore premiums are often set low to enable low income individuals to enrol; but this also leads to low revenue generation and availability of funds to provide adequate healthcare services to insured members. Even though premiums are mostly set low, studies have suggested that they still deter the poor from obtaining insurance coverage (Apoya and Marriott, 2011). As a result, some researchers have argued for the abrogation of premiums in low income settings (McIntyre, 2012; Apoya and Marriott, 2011). But while the removal of premiums would obviously expand membership coverage, the danger lies in whether such insurance coverage could be translated into greater healthcare access given that the SHI scheme may not be able to afford the high demand for healthcare that may ensue.

Another source of funds for SHI systems is hypothecated tax. These are specific taxes on goods and services whose revenue is dedicated to expenditure on an SHI scheme (Doetinchem, 2010). Proponents argue that hypothecated tax facilitates transparency, accountability and protection of healthcare resources from competing government expenditure (Le Grand, 2006). Also, it is argued that hypothecated tax enables government to achieve a fairer distribution of healthcare cost through the use of the tax revenue to subsidise the healthcare of low income households (Doetinchem, 2010). However, it is debatable whether tax hypothecation generates substantial additional resources to existing government allocations to health since the revenue generated from hypothecated taxes are likely to substitute existing government contributions. For example, if government was allocating a certain proportion of its budget to health (e.g. SHI scheme), the imposition of a hypothecated tax is likely to result in government cutting back on its existing allocations. But, perhaps the key benefit of hypothecated tax lies in the extra tax revenue that it generates and the fact that such revenue is

dedicated to the SHI scheme. Critics argue that hypothecated taxes are inefficient because they exempt the tax revenue from government scrutiny and allocation to more efficient areas (Stenberg *et al.*, 2010).

The equity effects of hypothecated tax depend on how progressive<sup>3</sup> the tax is and who benefits from the distribution of the tax revenue. In Ghana, hypothecated tax (NHIS levy) revenue is used to subsidise the NHIS premiums of informal sector workers to enable them enrol in the scheme. A study by Akanzili *et al.* (2012) noted that the NHIS levy was mildly progressive because goods and services that the levy (a hypothecated tax for the NHIS) was charged on were used less by low income households. However, Apoya and Marriott (2011) have argued that the use of the NHIS levy to finance the health services for NHIS members was a source of inequity because it allowed the healthcare costs of the rich (who are able to enrol in the NHIS) to be subsidised at the expense of low income households, who are mostly unable to enrol in the NHIS.

This discussion suggests that the type of revenue generation approach used by an SHI scheme could affect the extent to which individuals are able to enrol in the scheme as well as the scheme's ability to provide adequate healthcare services for members. As part of the analysis on NHIS membership coverage in chapter 6, this thesis examines how premium and payroll deductions affect equity in health insurance coverage in the NHIS.

### **2.2.2 Risk pooling**

Another important function of SHI is risk pooling. This refers to the aggregation of individual health risks in order to minimise the effects of healthcare costs on a single individual (WHO, 2000). Theoretically, SHI provides an effective system for risk pooling because it brings together individuals with different health, age and socioeconomic conditions into a particular insurance scheme to share the healthcare costs that a single individual would have incurred (Smith and Witters, 2004). An effective risk pooling is likely to facilitate equitable access to healthcare

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<sup>3</sup> Progressive taxation is one in which the tax amount an individual pays is based on their income level. Progressive taxes are often considered as equitable because they lead to poor people paying less tax and rich people paying more tax.

because it improves individuals' ability to afford needed healthcare services (Martin *et al.*, 1998).

The effectiveness of risk pooling in an SHI system depends on the *composition* and level of *fragmentation* of the risk pool (Preker and Carrin, 2004). According to Smith and Witter (2004), an effective risk pool requires a good balance of 'dependents' (e.g. low income members, high health risk individuals) and 'independent' (e.g. high income individuals, low health risk individuals) members in a single risk pool (e.g. an insurance scheme) in order to facilitate greater cross-subsidisation. Studies have shown that SHI schemes that have more 'dependents' than 'independents' are often prone to insolvency and poor ability to provide adequate healthcare services to members (Jacobs and Goddard, 2000). The challenge with most low income countries is that the majority of the population are poor with greater health risks and therefore are unable to achieve well balanced risk pools.

Fragmentation occurs when too many small independent risk pools (insurance schemes) are created in an SHI system. Low fragmentation is argued to facilitate effective cross-subsidisation and equitable access to healthcare services because it allows risk sharing between rich and poor (Preker and Carrin, 2004). This is achieved mostly in single risk pool where all insured members belong to the same risk pool (i.e. insurance scheme). However, many SHI systems operate multiple risk pools, typically, with separate schemes created for formal and informal sector workers or different geographical regions. According to McIntyre (2012), such occupation-based risk pools undermine the potential for formal sector workers, who have relatively better purchasing power and lower health risks, to subsidise the healthcare costs of poor informal sector workers. Preker and Carrin (2004) argue that such arrangements are likely to lead to formal sector workers to enjoy better benefits package and lower premiums than informal sector workers which could create further disparities in access. As a result, there is greater emphasis for SHI systems in low income countries to adopt single risk pools (McIntyre, 2012). However, Smith and Witter (2004) have argued that single risk pools limit individuals' choice over health insurance and healthcare services. But it is debatable the extent to which multiple risk pools could facilitate greater choice in low income countries given that insurance schemes are mostly created around occupations and geographic regions, and therefore offer individuals with limited choice over the type of insurance scheme they want to enrol. For example, the NHIS in Ghana started with a multiple risk pooling system in which quasi-independent schemes were formed in various districts in the country. This arrangement meant

that insured members of a particular DMHIS could only access healthcare services from the facilities that were contracted by the DMHIS. However, in 2010, all the individual schemes were brought together to form a single pool, which enabled insured members to be able to access healthcare from any accredited healthcare facility in Ghana. Thus, contrary to Smith and Witter's (2004) argument that single risk pools constrain choice, the change-over to single risk pooling in Ghana appeared to have improved individuals' choice in the use of healthcare providers.

Adverse selection is a common problem in single risk pooling. This refers to the tendency where less healthy individuals enrol in an insurance scheme due to their adverse health conditions (Culyer, 2010). Adverse selection occurs due to asymmetric information between individuals and the insurance agency, particularly in respect of the former's health risks (Rothschild and Stiglitz, 1976). Jowett (2004) has observed that adverse selection is particularly common in SHI systems because premiums are not risk-based (they are mostly community-rated), and therefore individuals who have higher health risk find it more beneficial to enrol. Adverse selection is likely to be less common in classical SHI systems due to mandatory enrolment, but it is more prevalent in SHI systems in low income countries because of the voluntary nature of enrolment (Atim, 1998). Adverse selection is deemed undesirable because it predisposes schemes to insolvency and an inability to facilitate greater equity in enrolment (Jakab and Atim, 2004). However, Parmar *et al.* (2012) have questioned the 'adverse' portrayal of adverse selection, and suggested that it should rather be called 'preferred selection'. They argued that adverse selection allows healthcare resources to be aligned to individuals who have high health risks and are most in need of care. But much as this argument is plausible, in most poor countries the financial problems caused by adverse selection affect the ability of schemes to provide adequate healthcare services for insured members (McIntyre, 2012). This problem is associated with the fact that in many poor countries government often subsidise premiums for poor people (who also have greater health risks) to enrol in greater numbers. However, these premiums are often calculated based on average community health risks and, therefore, are lower than the cost of providing healthcare for the subsidised poor, who mostly have greater healthcare needs.

A number of measures are often suggested for addressing adverse selection, including household enrolment<sup>4</sup>, compulsory membership, and waiting period<sup>5</sup> (Atim 2001; Morris *et al.*, 2007; Lu *et al.*, 2012). Compulsory enrolment is difficult to enforce in poor countries due to the large informal sector labour force which makes payroll deduction less feasible (Atim, 1998). In a study in Burundi, Arhin (1994) noted that although adverse selection significantly reduced at the individual level following the introduction of a household enrolment system, it increased at the household level. A similar study by Wang *et al.* (2006) in China found an association between household enrolment and household adverse selection in the Rural Mutual Health Care scheme. Besides, in poor countries where there is widespread extended family system, a family enrolment system could hamper individuals' ability to enrol in an insurance scheme especially if their family is too big and cannot afford the cost of enrolling every member at once (Atim, 2001). The above measures have been experimented in the NHIS in the past, but currently only the waiting period is used. However, there are questions over the extent to which waiting period is effective at discouraging adverse selection and whether it does have any consequences on enrolment in the NHIS. Empirical evidence on this question is discussed in chapter 6.

### **2.2.3 Purchasing**

Purchasing refers to the use of the pooled funds by an insurance scheme to buy healthcare services for insured members (Kutzin, 2000). It entails the composition of the benefits package and the provider payment mechanism of the insurance scheme. These have particular implications for financial access to healthcare and the availability and delivery of healthcare (Carrin, 2003).

#### ***Benefits Package***

A benefits package entails the totality of entitlements (mostly healthcare services) that an insurer provides for an insured person as a result of the latter's insurance membership (Kutzin, 2000). The benefits package of an SHI scheme has influence on the extent to which the scheme

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<sup>4</sup> Household enrolment refers to the system where the household (rather than the individual) is used as the unit of enrolment.

<sup>5</sup> In this system the insured person is required to wait for specified period of time after enrolling in the scheme before they can access the benefits package.

impacts on healthcare access because it determines both the healthcare services and cost that the insured person is exposed to. A key challenge in constituting an SHI benefits package lies in the difficulty in achieving a comprehensive package that covers greater healthcare needs and at the same time provide adequate financial protection. Such a 'comprehensive' benefits package would normally be expected to include a broad range of healthcare services, including both major and minor healthcare services. However, Arrow (1963) has argued that the provision of low cost healthcare services by an insurance scheme is inefficient and likely to discourage high income households from insuring in the scheme because they would feel that they can afford such services without insurance. He suggested that health insurance benefits package should be limited to only expensive and low-frequent healthcare services. Similarly, Xu *et al.*, (2006) has opined that the inclusion of minor healthcare services in a benefits package could cause moral hazard and cost escalation. Such high cost could lead to the SHI scheme passing on the cost to members in the form of high premiums, which could prevent low income households from obtaining insurance coverage (Savedoff, 2004). However, the difficulty with the benefits package covering only expensive and less frequent healthcare services, as suggested by Arrow (1963), is that it could discourage most low income individuals from enrolling in the scheme. In a study of a CBHI scheme in India, Gumber and Kulkarni (2000) found that most low income individuals were unlikely to renew their insurance if they had not used the benefit services in the previous year.

Normand and Weber (2009) have proposed three approaches for designing a benefit package, namely, epidemiological approach, equity approach, and cost effective approach. These approaches have various implications for equity. The epidemiological approach emphasises the inclusion of services that deal with major causes of morbidities and mortalities in society. Therefore, it allows for the benefits package to meet greater healthcare needs; but it risks excluding rare but expensive healthcare services that could have catastrophic consequences on low income households. The equity approach focuses on including services that address the healthcare needs of the poor. But the downside to this approach is that it is likely to exclude the needs of high income individuals whose participation in the SHI scheme is needed to facilitate greater cross-subsidisation. The cost-effective approach focuses on services that yield maximum possible health benefits at a minimum cost. It is efficient, but may exclude services that provide greater financial relief to low income households.

The NHIS' benefits package has been described as 'comprehensive' and appears to have been constituted based on the epidemiological approach because it covers about 95 percent of most common diseases in Ghana (NHIA, 2004). Although the benefits package addresses greater healthcare needs of both rich and poor insured members, it emerged from this thesis that many insured persons still suffer from catastrophic healthcare expenditure due to services that are not covered by the NHIS (see chapter 7).

### ***Provider payment system***

Studies suggest that health service providers often respond to the financial incentives of the provider payment system by adjusting their behaviour accordingly (Dor *et al.*, 1996). Therefore, an SHI scheme can use its provider payment system to leverage providers into adopting practices that facilitate equity of access to healthcare (Carrin and James, 2004).

The provider payment systems in SHI are broadly categorised into two: retrospective and prospective systems. Under a retrospective system, the insurer reimburses providers for the provision of healthcare services to insured members after the services has been delivered. The most common examples of retrospective payment system are fees-for-service<sup>6</sup> (FFS) and diagnostic related grouping (DRG)<sup>7</sup>. It is argued that fees-for-service could lead to the provision of adequate healthcare services because the total amount that a provider is reimbursed is calculated based on the resources expended in providing those services. Thus, they are considered to be effective at addressing the under-provision of healthcare services common in low income countries (Kutzin, 2000). But at the same time, they could cause an over-production of care and the delivery of unnecessary medical procedures (provider-induced demand), which could undermine both healthcare quality and financial sustainability (Morris *et al.*, 2007; Evans, 1984). A study by Witter and Garshong (2009) in Ghana found that fees-for-service, which was previously used by the NHIS, created higher healthcare and administrative costs for the NHIS.

On the other hand, DRG could minimise inefficiency and over-production of healthcare because tariffs are predetermined, and therefore creates the incentive for providers to contain cost

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<sup>6</sup> In fees-for-service system, services are unbundled and paid for according to the inputs used in providing the services.

<sup>7</sup> In a DRG system, medical cases are classified into groups based on their diagnoses and treatments and allocated an appropriate tariff.

(Scheller-Kreinsen *et al.*, 2009). However, such cost containment measures could lead to the delivery of poor quality services and cream-skimming<sup>8</sup> by providers (Cylus and Irwin, 2010; Silverman and Skinner, 2004). In addition, DRG tariffs are mostly adjusted based on the type of provider involved (i.e. ownership type and the level of care provided) which is likely to create inequities in healthcare access because bigger and urban-based providers, which are paid higher tariffs, are able to improve on their services at the expense of smaller and rural-based facilities. The impact of the NHIS DRG system on healthcare equity is examined in greater detail in chapter 8.

Capitation is the most common type of prospective payment system used by most SHI systems in low income countries. In this payment system, the provider is reimbursed prior to the provision of services to insured members. In a simple capitation system, the amount paid to the provider is based on the number of clients allocated to it. But in a complex capitation system, tariffs are adjusted to reflect the health risk of the client. It is argued that capitation enables both the provider and the insurer to make efficiency savings from reduced administrative costs and efficient service delivery (Mills, 2000; Ellis and McGuire 1993). Owing to the prospective nature of capitation payments, providers are motivated to provide preventive health services to clients, which could improve health and reduce future healthcare costs (Shimmura, 1988). A study in Rwanda by Schneider and Hanson (2007) noted that providers responded to the incentives of a capitation system by operating more efficiently and significantly reducing healthcare costs. But the drawback to capitation system is that it could lead to under-provision of healthcare, dumping<sup>9</sup> and cream-skimming, which have negative consequences on healthcare access (Ellis and McGuire 1996; Matsaganis, 1994). A study by Mills *et al.*, (2000) found that the introduction of a capitation system in an SHI scheme in Thailand resulted in some private providers delivering poor standard care to insured patients. They also found evidence of skimping<sup>10</sup> and dumping among some private providers, which they attributed to the capitation payment system.

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<sup>8</sup> This refers to the tendency where a healthcare provider or an insurance provider chooses clients who have low health risks in order to increase their profits.

<sup>9</sup> This refers to the tendency where a provider turns away a patient or refers them to another provider because it feels it will incur greater cost by treating them.

<sup>10</sup> This refers to the tendency where a provider uses fewer resources to treat a patient than is necessary in order to increase its profits.

It has been argued that the healthcare quality concerns of capitation systems can be mitigated by facilitating greater consumer choice and competition among providers (Cashin *et al.*, 2005). According to Weisbrod (1991) providers' professional ethics and legal liability for medical malpractice would deter them from undertaking measures that will affect the quality of care they deliver. But it is questionable how these measures would be effective in low income contexts especially given the low availability of healthcare facilities. Both fees-for-service and DRG systems have been used in the NHIS, and were found to increase healthcare costs for the NHIA (Freiku, 2011). In 2012, a process was initiated to replace them with a capitation system. However, the low availability and uneven distribution of healthcare facilities in Ghana, particularly in rural areas, raises concerns about possible adverse impact of capitation on healthcare access for NHIS members.

#### **2.2.4 Healthcare service provision**

Health service provision provides another mechanism through which SHI impacts on healthcare access. SHI establishes a principal-agent relationship between the insured, insurer, and provider. This relationship is often characterised by asymmetry information which can affect health service provision and the healthcare seeking behaviour insured members in both positive and negative ways (Cutler and Zeckhauser, 2000). Changes in healthcare behaviour that results from such insurance relationship is conceptualised in the economic literature as moral hazard (*Ibid*).

Moral hazard in healthcare generally entails the tendency of an insured person to use healthcare more than they will normally do if they were paying from out-of-pocket by themselves (*ex post* moral hazard). It also involves the tendency for an insured person to engage less in preventive health behaviours (*ex ante* moral hazard) (Zweifel and Manning, 2000). A third dimension of moral hazard is the tendency for a provider to deliver 'excess' healthcare to an insured patient in order to increase its profits (provider-induced demand) (Evans, 1984). Moral hazard occurs in SHI systems because both the insured person and the provider are less directly affected by the direct cost that results from the use of healthcare services. This behaviour is facilitated by information asymmetry which makes it difficult for the insurer to track the activities of the insured person and the provider (Pauly, 1974).

Moral hazard is generally described as 'undesirable' because it results in an 'excessive' use of care, which is inefficient and creates welfare loss (Pauly, 1974). Similar to adverse selection, it can lead to an increase in healthcare cost which could be passed on to scheme members in the form of high premium charges and thereby prevent low income households from attaining insurance membership (Atim, 1998). However, from an equity perspective, it is often debatable whether there is such thing as 'excessive' utilisation of healthcare services, particularly in relation to low income households. This is because studies have shown that poor people often under-utilise care due to unaffordability (Acharya *et al.*, 2012), and therefore when health insurance results in an increase in their use of healthcare such increase can hardly be considered as 'excessive'.

SHI systems are particularly susceptible to moral hazards because the insurer cannot discriminate among prospective members on the basis of their health risks. As a result, there is a plethora of evidence that suggests the existence of moral hazard in SHI schemes in low income countries. In a study in China, Sepehria *et al.* (2006) found that the average length of stay in hospital by insured patients of the Compulsory Insurance Scheme (an SHI scheme) was significantly higher than non-insured patients, which was an indication of the presence of ex-post moral hazard. Similarly, Yilma *et al.* (2012) found that NHIS members were less likely to own and use insecticide-treated bed nets (ITNs) and suggested this was as indication of the presence of *ex-ante* moral hazard. Also, Amporfu (2011) found that some NHIS accredited private (for-profit) providers in the Ashanti Region in Ghana engaged in provider-induced demand.

However, the theoretical assumptions about the underlying causes of moral hazard raise questions over whether individuals (i.e. insured persons) actually engage in moral hazard in the health sector. Theoretically, it is argued that moral hazards occur because the direct cost of using healthcare is not felt directly by the insured person as it is paid for by the insurer (Arrow, 1963). But although health insurance may reduce healthcare cost, it seems unlikely that most people will seek healthcare when they are not actually in need of it. It also seems unlikely that an insured person will engage in a risky behaviour because they are not directly responsible for paying their medical expenses. Thus, although moral hazard may occur in relation to the consumption of certain goods, it seems most unlikely to occur in healthcare because the consumption of healthcare is not directly 'pleasurable'. However, Carrin and James (2004) have argued that although insured individuals would not readily engage in risky behaviours or seek

healthcare when they are not ill, they are likely to use 'excessive' or expensive care when they are ill and seeking treatment.

A number of measures have been suggested for minimising *ex-post* moral hazard in SHI systems, including, co-payments<sup>11</sup>, reinsurance<sup>12</sup>, deductibles<sup>13</sup>, and gate keeping (Hsiao, 1995). According to Kutzin (1998) most of these measures involve some level of cost sharing which restores the 'price signal' negated by health insurance. However, such cost sharing measures often have negative effects on healthcare access. Studies have shown that even small user-fees can prevent low income individuals from accessing healthcare (Carrin and James, 2004). The NHIS does not operate a cost-sharing system in the provision of healthcare services and therefore these measures, less gate keeping, are not expected to affect healthcare utilisation. But the indirect cost associated with seeking healthcare was found in this thesis to have reduced *ex-post* moral hazard among insured members (see section 9.2.1).

Thus, section 2.2 has shown that the impact of an SHI scheme on equity of access to healthcare depends to a greater extent on its design features, particularly in respect of revenue generation, risk pooling, purchasing and service delivery.

### **2.3 Theories of health insurance uptake**

In most poor countries, low enrolment has been blamed for the poor performance of SHI schemes in promoting healthcare access (Bennett *et al.*, 1998). Due to the voluntary nature of enrolment in SHI systems in low income countries, enrolment is partly based on individuals' or households' decision-making. There are a number of theories that explain why people decide to enrol or not to enrol in an SHI scheme including, expected utility theory, cumulative theory, state dependent utility theory, and time preference theory (Schneider, 2004).

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<sup>11</sup>This refers to the system where an insured person pays a specified amount of money each year for medical services before the insurance policy pays anything at all.

<sup>12</sup>This refers to the system where an insured person is required to pay a certain portion of their healthcare costs that exceed the deductibles ( e.g. a certain percentage)

<sup>13</sup>This refers to a system where an insured person makes a token payment each time they go to the hospital to access healthcare.

The *expected utility theory* is based on the assumption that human beings are risk averse and therefore purchase health insurance to reduce their exposure to the financial risk of illness (Schneider, 2004; Arrow, 1963). This is because the high uncertainties associated with the timing and magnitude of illness creates a sense of insecurity in people (Smith and Witter, 2004). Thus, people are likely to purchase health insurance because it is perceived to provide them with security against excessive healthcare expenditure during illness. This suggests that the more risk averse an individual is the more likely they are to enrol in a health insurance scheme. Studies have shown that poor people are more susceptible to health shocks due to limited access to adequate housing, food, healthcare and other social determinants of health (Case and Deaton, 2002; Wagstaff, 2000). Based on this, expected utility theory would suggest that poor people would be more likely to insure because they are risk averse (Schneider, 2004). However, the *cumulative prospective theory* suggests otherwise. It argues that people make decision about enrolling in an insurance scheme based on weighted probabilities of losses and gains. They tend to accord more importance to things that are less likely to occur (more uncertain) and less value to those that more likely to occur (more certainty) (Tversky and Kahneman, 1992). Thus, due to poor people's high health risks and frequency of their illness (high certainty about the occurrence of illness), they are less likely to accord greater importance to illness and therefore less likely to enrol in an insurance scheme.

The *state dependent utility theory* suggests that an individual's decision to enrol in a health insurance scheme is determined mainly by their present health condition and the expected insurance pay-out. Individuals would purchase health insurance only after they have undertaken a cost-benefit analysis to show that the benefits of the insurance are more than the losses (Schneider, 2004). Individuals who have high health risk are likely perceive health insurance to be beneficial and therefore will tend to enrol more in the insurance scheme. Atim and Sock (2001) found that, in Ghana most individuals decide to enrol in health insurance scheme only after they have experienced a spell of serious illness or high medical expenditure. The state dependent utility theory partly explains why people engage in adverse selection in voluntary health insurance schemes (see section 2.2.3).

Another theory which, according to Schneider (2004), explains why poor people are less likely to enrol in health insurance scheme is the *time preference theory*. This suggests that in order for individuals to purchase health insurance they would first need to be able to meet their present

consumption needs such as food, before they will consider any future protection (World Bank, 2000). Poor people are often unable to meet their present consumption needs and therefore are less likely to spend their meagre incomes on health insurance which may usually not yield immediate benefits.

These theories have been applied in explaining variations in NHIS enrolment among social groups in chapter 6.

## **2.4 Conclusion**

An important observation from the review in this chapter is the huge discrepancies between the theoretical tenets of SHI and how it is applied in practice in LICs. The chapter showed how the key principles of SHI - compulsory membership, risk independent and transparent contribution, explicit benefit package, provider-purchaser split, and social solidarity - are manifested in SHI systems in low income countries. It concludes that the NHIS does not entirely conform to classical SHI model due to its voluntary enrolment nature and the fact that it is mainly funded with tax revenue. The voluntary enrolment feature of the NHIS is expected to affect membership coverage; hence, its implications on enrolment are examined in chapter 6. This chapter also demonstrated how SHI affects equity of access to healthcare from a theoretical perspective through its core functions, including revenue generation, risk pooling, purchasing, and provision of healthcare. These provided useful pathways for examining the equity impact of the NHIS in the findings and discussion chapters (6 – 9). The enrolment theories discussed in this chapter helped to analyse individuals' behaviour towards the uptake of NHIS. For example, the time preference theory was used to explain why low income households fail to prioritise health insurance in household consumption in chapter 6.

The next chapter examines the concepts of 'access' and 'equity' in healthcare and how they are manifested in developing country contexts.

## **Chapter 3: Access and equity in healthcare**

### **3.0 Introduction**

This chapter reviews the concepts of *access* and *equity* in healthcare with the aim of finding an effective conceptual framework for ascertaining how the NHIS shapes equity of access to healthcare in Ghana. The chapter is structured as follows. Section 3.1 discusses the theoretical underpinnings of access to healthcare. This is followed by a review of the concept of equity in healthcare in section 3.2.

### **3.1 Access to healthcare**

Healthcare access is a key policy objective of most healthcare systems, yet there is little consensus on a common definition for it (Goddard and Smith, 2001). One of the reasons for the lack of consensus is because 'access' is often defined according to a particular country's health policy objectives, which differ from one country to another (Gold, 1998). However, a common definition of healthcare access is essential to establishing a standard empirical measure of access that would allow for comparison between different contexts (Khan and Bhardwaj, 1994). This section examines the various models and dimensions of healthcare access in order to find a suitable definition for examining the impact of the NHIS on access to healthcare.

#### **3.1.1 Models of healthcare access**

Healthcare access has been defined variously by different researchers. The definitions are mostly polarised along different level of emphases on the demand and supply sides of the healthcare system. On the one hand, there are those who hold a purely supply-side view of access. For example, Fein (1972) defined healthcare access as the availability of healthcare resources such as healthcare facilities, staff and medical supplies. Similarly, Goddard and Smith (2001) perceived of healthcare access as relating to the quantity and quality of medical services provided by the healthcare system. According to them, healthcare access entails the 'ability to secure a specified set of healthcare services, at a specified level of quality, subject to a

specified maximum level of personal inconvenience and cost, while in possession of a specified amount of information' (Goddard and Smith, 2001:656). The difficulty with such supply-side definitions is that they fail to recognise that 'access' problems are sometimes caused by demand-side factors such as individuals' personal and socio-cultural factors. On the other hand, there are those who profess a demand-side view of healthcare access. This includes the approach taken by Bice *et al.* (1972) who defined healthcare access as the ability to pay for the cost of healthcare services (i.e affordability). Although affordability seems to be influenced by the costs of healthcare services and the payment system as set by the healthcare system (supply-side factors), this definition focuses on just the individual aspect of affordability – the financial ability of the individual to pay – and fail to take into consideration how supply-side factors contribute to issues of affordability.

The evidence in the literature shows that healthcare access entails more than just affordability or availability. They suggest healthcare access entails a range of different dimensions and are driven by both demand and supply factors. This view is supported by Oliver and Mossialos (2005) who defined healthcare access as the physical availability of healthcare resources as provided by the healthcare system and the ability of individuals to afford those services. However, although Oliver and Mossialos' definition extends the scope of access definition, it falls short on important aspects of healthcare access such as health need and beliefs and values. As a result, there has been a growing interest in approaches that take a much broader view of healthcare access as comprising different interrelated demand and supply side aspects (Penchansky and Thomas, 1981; Andersen, 1995; Thiede *et al.*, 2007). These approaches are rooted in the broader models of healthcare access, including the behavioural model, the fit model and the empowerment model. These models are crucial for understanding the complexity of healthcare access and are discussed below.

### **3.1.1.1      *The behavioural model***

The behavioural model was espoused by Ronald Andersen. It conceptualises healthcare access as being determined by a set of interrelated variables, namely, predisposing, enabling, and need factors. This model is particularly useful for understanding factors that facilitate and constrain individuals' access to healthcare.

The *predisposing* variables are factors that influence individuals' need for and decision to use healthcare. They include demographic, biological and psychological factors as well as the social structure and health beliefs (see Table 3.1). The predisposing factors mainly determine individuals' need for healthcare but not their *ability* to use healthcare (Andersen, 1995).

Thus, the actual ability to use healthcare is determined mainly by the *enabling factors*, which entails individual characteristics (e.g. personal and household income and insurance coverage); community characteristics (e.g. healthcare system); and the wider social and economic characteristics of the community (*Ibid*; Davidson *et al.*, 2004). The healthcare system factors and individual variables are particularly useful for understanding the proximate determinants of healthcare access in Ghana. This is because healthcare is financed mainly through out-of-pocket payments and health insurance and therefore requires individuals to have good financial capacity to be able to purchase healthcare or insure with the NHIS. Also, due to scarcity of healthcare resources, there are many instances where an individual could have the financial means to purchase particular healthcare services but without the services being made available to them (Akanzili *et al.*, 2012).

The third determinant of access, according to the behavioural model, is *health need*. This refers to the functional state of an individual as perceived by them or evaluated by a healthcare professional (Andersen, 1995). 'Health need' is often defined, according to this perspective, in terms of an individual's health status such as illness. However, Culyer and Wagstaff (1993) have criticized such a definition on the basis that it excludes the need for preventive care and also fails to take into account if there are effective treatments for that health need. Rather, they defined 'health need' as the 'capacity to benefit', which refers to the potential improvement in health status that an individual may achieve by using a particular health service, including preventive service. This definition emphasises the availability of treatment for the particular 'health need' as well as the cost effectiveness of that treatment. However, the danger with defining health need as the 'capacity to benefit' is that it could lead to less attention being paid to certain serious illnesses because treatment that are available for them are not cost-effective.

The behavioural model also conceptualises healthcare access as existing in a continuum, ranging from *potential access* to *realised access*. The former entails the opportunity to use healthcare such as health insurance coverage and the availability of healthcare resources (e.g. hospitals and health workers). The latter refers to the actual utilisation of healthcare services,

which is determined by the availability of healthcare resources and the ability and willingness of an individual to use healthcare services (Andersen, 1995). Based on this notion, the behavioural model suggests that healthcare access can be measured both in terms of the *opportunity* to use healthcare services and the *outcome* of the healthcare seeking process (e.g. utilisation and level of satisfaction with healthcare).

Table 3.1 provides a summary of the key determinants of healthcare access as espoused by the behavioural model, the corresponding variables of the determinants and their specific examples.

**Table 3.1 Determinants of access in the behavioural model**

<b>Determinant</b>	<b>Variable</b>	<b>Example/Description</b>
<b>Predisposing</b>	Demographic	Sex, age
	Biological/psychological	Genes
	Health belief	Attitudes, values and belief about health and health services
	Social structure ( position in society )	Education, ethnicity, employment
<b>Enabling</b>	Individual variables	Personal and household income, insurance membership, knowledge about healthcare services, social relations (social capital)
	Community variables	Healthcare system characteristics; social, economic, structural and public policy environment
<b>Need</b>	Perceived need	Illness as perceived by an individual
	Evaluated need	Illness as confirmed by a health professional

Source: Adapted from Andersen (1995).

Most studies on healthcare access are based on potential and realised access measures. However, the use of utilisation as a measure of healthcare access has been critiqued by several researchers. Penchansky (1976) has argued that 'utilisation' fails to capture most salient aspects of the healthcare seeking process and, instead, proposed some five 'specific' dimensions of access (e.g. availability, accessibility, affordability, acceptability, and accommodation) as the basis upon which healthcare access should be measured (see section 3.1.1.2). Similarly, Thiede *et al.* (2007) contend that utilisation may not always provide an accurate picture of healthcare access because, for instance, an increase in the utilisation of a particular healthcare service may be due to a rise in the prevalence of a particular disease or moral hazards rather than an improvement in access. In relation to this, Savedoff (2007) argued that an increase in engagement in health prevention activities and availability of effective health services is likely to reduce the rate of healthcare utilisation, which is not an indication of a lack of access as the behavioural model would suggest. He further argued that utilisation does not take into account the experiences of healthy individuals who have healthcare resources/services available to them but decide not to use them. Therefore, he proposed that healthcare access should be measured in terms of the availability of effective healthcare services/resources. However, the drawback to Savedoff's proposition is that if the measurement of healthcare access was to focus on only potential access it would lead to the exclusion of certain key aspects of healthcare such as provider factors (e.g. behaviour of health workers, the organisation of healthcare in the facility) and individual factors (e.g. knowledge about healthcare services), which are key to determining if a person is able to use a particular healthcare service/resource that is made available to them.

Perhaps, a useful approach to examine healthcare access is one which embraces both potential and realised access measures. Consequently, this thesis uses both potential and realised access measures to ascertain the effects of the NHIS on access to healthcare. These measures are proxied as: NHIS membership coverage, availability of healthcare services (both representing potential access), and utilisation of healthcare services (representing realised access) (see section 4.1.1).

### **3.1.1.2      *The 'fit' model***

Penchansky and Thomas (1981) criticised the behavioural model on the grounds that it fails to adequately explain the relationship between individual and healthcare system characteristics in

determining healthcare access. They proposed the 'fit' model to explain such interaction. The key propositions of this model are summarised below:

- Firstly, healthcare access consists of five dimensions: availability, accessibility, affordability, acceptability, and accommodation. Each of these dimensions represents a separate measure of access and interacts with one another to determine the overall level of healthcare access of an individual (see section 3.1.2). Therefore, these dimensions support and broaden the scope of the behavioural model's potential and realised access measures.
- Secondly, an individual's level of access in each of the dimensions is determined by the level of 'fit' (i.e. compatibility) between their own (individual) attributes and the characteristics of the healthcare system.
- Thirdly, healthcare access should be measured in terms of individuals' level of satisfaction (subjective measurement) of each of the access dimensions.

The concept of 'fit' emphasises the need for *compatibility* between the personal, socio-cultural, health needs and economic characteristics of the individual on the one hand, and the supply and organisation of healthcare services by the healthcare system on the other. This compatibility is critical for ensuring that healthcare services are available, adequate, appropriate, accessible, and affordable to the individual. According to Ricketts and Goldsmith (2005), such compatibility can be enhanced by health policy makers regularly engaging with individuals (or the population) during the design and implementation of healthcare interventions.

Under the fit model, healthcare access is measured mainly through subjective measures such as level of satisfaction with the availability, accessibility, affordability, acceptability, and accommodation of healthcare. Panchansky and Thomas (1981) argued that these variables reflect individuals' experiences of healthcare and perception about whether they can obtain healthcare when they need it and therefore useful for measuring access. However, Savedoff (2007) has argued that the reliance on 'perception' to measure healthcare access is ineffective. He explained that individuals' perception about healthcare access is influenced by their health needs and expectations of the availability of effective treatment, which in some cases is unavailable. In Ghana, evidence suggest that insured persons often think they have access to certain healthcare services that are covered by the NHIS, but later realise when they go to a healthcare facility that the services are not available or are unable to use them due to

overcrowding (see chapter 8). Also, Young and Ryu (2000) have noted that the fit model is difficult to operationalise due to a difficulty in measuring the extent to which particular variables are compatible with each other or otherwise. Nonetheless, in many research situations subjective measures are often essential to overcome data constraints and explore aspects of healthcare that are not easily quantifiable.

The fit model is particularly effective at explaining the relationship between variables that affect access to care, and therefore complement effectively with the behavioural model (McCarthy and Blow, 2004). Such a complementary approach is used to help understand the complexity of the issues that shape healthcare access in Ghana.

### **3.1.1.3      *The empowerment model***

The empowerment model was espoused by Thiede *et al.* (2007). This model is similar to both the behavioural and fit models in the sense that it holds the view that healthcare access is embodied by several different dimensions. However, it defines healthcare access as the *empowerment* to use healthcare. The concept of 'empowerment' refers to building the capacity of the individual to use healthcare, including the affordability, availability and acceptability of healthcare (McIntyre *et al.*, 2009). It also involves enabling individuals to understand their healthcare needs, rights, and available healthcare services as well as being able to choose from alternative options how they prefer to address their health needs. From a supply-side perspective, empowerment entails the provision and organisation of healthcare services in accordance with the needs, means, expectations and values of the target population. The empowerment model emphasises the need to promote information exchange between the population and the healthcare system in order to facilitate the formers' knowledge about their rights (in terms of healthcare) and available healthcare services. This would also enable policy makers to understand the needs of the population in order to adapt healthcare services appropriately.

Based on the empowerment model, individuals are considered to have healthcare access if there are opportunities (i.e. affordability and availability of services) made available for them to use the particular healthcare services that they need as well as being fully informed about the services and options available to them. Unlike the behavioural model where the non-use of healthcare services is interpreted to mean a lack of access, the empowerment model suggests

that non-use could actually be a manifestation of an 'empowered' individual exercising their right not to use a particular healthcare service. In line with this, the empowerment model conceptualises inequity of access to healthcare in terms of disparities in individuals' empowerment to use healthcare (McIntyre *et al.*, 2009).

The idea of 'empowerment' may be difficult to operationalise and measure objectively in a research situation, although a subjective measure could be useful. Gulliford (2009) has criticised the empowerment model on the basis that individuals' autonomy and choice in respect of their health sometimes conflict with societal health objectives. For example, an individual may *choose* not to take part in a public vaccination programme which could jeopardise the health of the entire population by increasing their susceptibility to a particular disease. Gulliford (*Ibid*) further noted that in some cases the only way an individual can obtain some particular treatment is by having their right to choose withheld. For example, during emergency medical situations, medical practitioners often make decisions for the sick person on the appropriate treatment they need to have. In addition, in many cases, the lack of choice in healthcare in a particular society could be due to a genuine lack of resources to provide healthcare options to the population (*Ibid*). Therefore, given the resource constraints in low income contexts, one wonders if the notion of access as the empowerment of individuals to use their desired healthcare is an achievable goal. Nonetheless, the empowerment model is very useful because it underscores the need to develop individuals' capacity about healthcare services rather than just the provision of healthcare resources as some traditional access models espouse.

This section has shown that although all the models provide useful insights on healthcare access, each one has some important limitations (see Table 3.2), which means that they are not able to deal with the complexities of healthcare access on their own. This suggests the need for complementarity between the three models, which is the approach adopted in this thesis (see section 4.1.1). One of the key common features among all the three models is the idea that healthcare access is a multidimensional concept. Understanding the nature of these dimensions is essential for examining the totality of healthcare access in Ghana. The next section examines these.

**Table 3.2 Summary of the key models of healthcare access**

<b>Model of access</b>	<b>Conception of healthcare access</b>	<b>Measurement indicator</b>	<b>Key limitation(s)</b>
<b>Behavioural model</b>	Access entails the potential to use healthcare and the actual utilisation of healthcare services. Access is mediated by predisposing variables, enabling variables, need variables.	Potential access (health insurance coverage; availability of healthcare resources); realised access (actual utilisation of healthcare)	It does not sufficiently explain the <i>relationship</i> between the key variables that determine access.
<b>Fit model</b>	Access is the outcome of the level of 'fit' between the characteristics of a population and the healthcare system. Access entails five dimensions: availability, acceptability, accessibility, accommodation, and affordability.	Level of satisfaction with the availability, acceptability, accessibility, accommodation, and affordability of healthcare services.	It is difficult to measure the level of 'fit' between individual and healthcare system variables. Perception of access does not always reflect the actual nature of access.
<b>Empowerment model</b>	Access is the empowerment or freedom to use healthcare. Empowerment means the affordability, availability and acceptability of healthcare as well as providing individuals with information, choice and autonomy over their healthcare.	Level of availability, affordability, and acceptability of healthcare services; level of choice in the healthcare system; level of access to information about healthcare services.	Limited application to healthcare access in low income countries where there are inadequate resources to empower individuals. Autonomy and choice could undermine societal health objectives.

Source: Author's construct

### **3.1.2 Dimensions of healthcare access**

The dimensions of healthcare access identified (from the above three models) for the purpose of this study are: availability, acceptability, affordability and utilisation.

### ***Availability of healthcare***

In most of the health literature, healthcare availability is conceptualised as mainly a supply-side variable, which entails the existence of *healthcare resources* such as healthcare facilities, health workers, medical supplies, and hospital beds (Guagliardo, 2004). The difficulty with such notions of availability is that it fails to take into account the *relevance* and productive capacity of healthcare resources that are available. These variables are useful for establishing the extent to which a particular healthcare resource is able to fulfil a particular healthcare need (McIntyre *et al.*, 2009; Frenk, 1992). Besides, the ability to *reach* particular healthcare resources is another important aspect of healthcare availability. This is referred to in the literature as ‘accessibility’, and entails the proximity of healthcare resources to the individual as well as the availability of transport facilities and the affordability of the transport costs involved in accessing the healthcare resource (Thomas and Penchansky, 1984). Healthcare availability also relates to the ability of the individual to gain *entry* into the healthcare system. This relates mainly to the structure and organisation of the healthcare system (e.g. healthcare facility) such as the appointment system, operating hours, waiting time, and the internal administrative processes.

Healthcare availability is measured mainly in terms of the number of physicians, healthcare facilities, and hospital beds that are available within a particular geographical area. The international standard measurements of availability express the number of healthcare resources relative to the population, including doctor-population ratio and hospital beds-population ratio (WHO, 2006). While these measures are useful in providing crude understanding of the adequacy of healthcare resources, they fail to show the relevance of particular resources. This can be ascertained based on individuals’ perceptions of the relevance of available healthcare resources. In addition, the ‘accessibility’ of healthcare can be measured in terms of the time, cost (including the opportunity cost), and distance of travelling to a healthcare facility (Mooney, 1983). Some of these measures have been used to examine the impact of the NHIS on the availability of healthcare services (see chapter 8).

### ***Acceptability of healthcare***

Healthcare acceptability usually relates to how the characteristics of the healthcare system conform to the attributes of the population. It is a two-way process involving the extent to which the characteristics of the healthcare system and the client are ‘acceptable’ to each other (Penchansky and Thomas, 1981). For example, the sex, ethnicity and religious affiliation of a healthcare provider may influence an individual to use or not to use a particular healthcare

service, depending on how those characteristics relate to their values. Similarly, a provider may have his or her preferred clients' attributes (e.g. insurance status, religion, gender, age, ethnicity etc), which could affect the use of the healthcare services that they provide by individuals who do not possess those attributes. McIntyre *et al.*, (2009) have noted that acceptability issues are likely to emerge if healthcare services are organized from the perspective of the provider rather than the population.

Acceptability raises the question of whether the nature, organisation and delivery of healthcare services are compatible with the values and beliefs of an individual of a population. For example, among certain cultures in Ghana, it is commonly believed that certain illnesses are caused by evil spirits, and this keeps people from seeking formal healthcare when they are ill.

### ***Affordability of healthcare***

Affordability is related to the ability and willingness to pay for the cost of needed healthcare. It is a critical determinant of access because it affects an individual's ability to use healthcare (Thiede *et al.*, 2007). Affordability is shaped by both demand and supply side factors such as healthcare cost, ability to pay, and willingness to pay.

There are two types of healthcare costs: direct costs and indirect costs. Direct healthcare costs entail out-of-pocket payments (e.g. consultation fees, diagnosis test fees, medicine charges, and unofficial payments), transportation costs, and child care costs. Indirect healthcare costs refer to the opportunity costs (or opportunity forgone) of seeking care such as loss of income due to time spent in a healthcare facility (McIntyre *et al.*, 2009). Until recently, healthcare cost was viewed from a purely supply-side perspective, as involving just the direct costs of care. However, recent notion of 'full cost' (or 'shadow price') has 'individualised' the concept of healthcare costs to include opportunity cost (McIntyre *et al.*, 2009). Le Grand (1991) has noted that the concept of opportunity cost is critical in healthcare affordability because it underscores the sacrifices that individuals and households make during healthcare seeking and thus provides a more detailed perspective of the actual impact of the cost of a particular healthcare service. The idea of opportunity cost suggests that equality in the direct cost of healthcare does not necessarily lead to an equal healthcare access. Studies have shown that the relative impact of healthcare payment on low income households is often greater because they are faced with limited opportunity sets and therefore suffer greater opportunity cost (*Ibid*). This implies that insurance coverage alone may not be a strong measure of affordability because it does not

usually cover the indirect cost of care. This suggests that a better measure of affordability would be one which embraces both the direct and indirect costs of care.

The second determinant of affordability is the ability to pay. It is difficult to precisely define what constitutes an individual's (or household's) ability to pay for a particular type of healthcare due to the relative impact of such payments on the individual or household. However, the ability to pay for care is dependent on the price of healthcare and the financial circumstances of the individual. The latter is influenced mainly by an individual's income, level of cash savings and assets, and social network (Russell, 1996). The ability to secure credit and the eligibility for health related benefits and user fees exemption programmes are equally important determinants of individuals' ability to pay for healthcare. Xu (2005) has defined the ability to pay for healthcare as when out-of-pocket cost of care is less than or equal to 40 percent of household non-subsistence income<sup>14</sup>. He argued that when the cost of healthcare is above the 40 percent threshold, it is likely to cause catastrophic consequences on the household or individual.

The willingness to pay for care is influenced by an individuals' or households' perception about the effectiveness and worth of healthcare services as well as their expenditure priorities. A household may be less willing to pay for the healthcare of a member if he or she does not contribute a lot to the household income. Similarly, where a household has other priority needs, they are likely to spend their income on those needs rather than healthcare, especially if the illness is perceived to be less serious.

### ***Utilisation of healthcare services***

Utilisation is often conflated with 'access' in much of the literature, although the two are conceptually quite different. Andersen (1995) refers to the former as the ability to gain *entry* into the healthcare system. Mooney (1986) makes an important distinction between the two concepts. He argues that whereas 'access' is shaped by only supply-side variables, 'utilisation' is influenced by both demand and supply variables. The demand side variables are determined by individuals' preferences as influenced by their previous experiences of healthcare. This thesis accepts the notion that 'utilisation' is shaped by both demand and supply factors, but does not agree with the view that 'access' is a purely supply side variable. Rather, it holds the

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<sup>14</sup> This refers to total income minus expenditure on subsistence need (Xu, 2005).

view that access is influenced by both individual characteristics and community and healthcare system characteristics. Thus, utilisation is used in this thesis as a dimension of access rather than a proxy of access.

In summary, a key observation from the review of the models of access is the fact that each of the models cannot sufficiently explain the complexity of healthcare access on their own. It emerged that while the behavioural model is effective at *identifying* variables that shape healthcare access; both the fit and the empowerment models provide useful frameworks for understanding the *relationship* between the healthcare variables. For example, the behavioural model could tell the researcher *what* the determinants of the affordability of particular healthcare services are, but the fit and the empowerment models are needed to explain *why* certain individuals can afford such services than others. Therefore, all the three models are used in this thesis to ascertain the effects of the NHIS on healthcare access. This thesis takes the view that access to healthcare entails both the *process* and actual *utilisation* of healthcare services. These are captured in the four healthcare access dimension (the availability, acceptability, affordability, and utilisation of healthcare services). These dimensions provide the framework upon which the effects of the NHIS on access to healthcare are ascertained in this thesis. The next section examines what equity in healthcare access entails.

### **3.2 Equity of access to healthcare**

In much of the literature, the term *equity* (or *inequity*) is often conflated with *equality* (or *inequality*). But these concepts are fundamentally different because 'equity' refers to 'fairness' while 'equality' means 'sameness' (Pereira, 1989). The two concepts are similar in some respect in the sense that in some cases equality (sameness) is needed to achieve equity (fairness). But they are also different because not all outcomes that are equal (same) are equitable (fair). This is because some people may consider an equitable distribution as one which is based on what individuals deserve (Le Grand, 1991). Also, equity involves value judgements which often differ from one culture to another (Whitehead, 1991), whereas what is considered to be equal (equality) is likely to be the same everywhere. However, the term 'social inequality' is often used in the literature to mean inequity (Braveman and Grushkin, 2003). This thesis focuses mainly on *equity* (*inequity*) rather than *equality* (*inequality*).

The next sections examine the theoretical foundations of equity, the key definitions of equity in healthcare, and the equity objective of the Ghana healthcare system.

### **3.2.1 Theoretical perspectives on equity**

The theoretical underpinnings of equity are mainly grounded in theories of social justice. These theories differ in terms of *what* should be the object of distribution (e.g. resources, utility, and liberty) and *how* the distribution should be effected (e.g. equality, maximization, free transaction) in order to achieve a fair outcome (Lamont and Favor, 2013). There are many theories of social justice; however, this section appraises only three of them: utilitarianism, libertarianism and egalitarianism. These three theories are most relevant here because they provide the basis upon which most definitions of equity in healthcare and the organisation of healthcare systems are developed.

#### ***Utilitarianism***

Utilitarianism suggests that the fairness of an action should be evaluated based on how it affects the utility of an individual or society. A fair distribution, according to this theory, is one which maximises utility (Kymlicka, 2001). There are different views within utilitarianism as to what yields the greatest utility, including pleasure, preference-satisfaction, and health. A utilitarian approach focuses on the utility gains of the *outcome* (consequentialism) of a distribution rather than the *process*. It defines the utility of society (social utility) as the sum of individuals' utilities; hence, resources are distributed to maximise the utility of the individual.

In applying utilitarian principles to the health sector, resources are allocated to maximise the health gains of the individual. This means that more resources are allocated to persons with a greater propensity to produce the highest health gains (Olsen, 1997). In most cases, this is based on individuals' health needs. Most utilitarians define health need as the 'capacity to benefit', which is the potential improvement in health that an individual might achieve from using a particular health service (see section 3.1.1.1) (Culyer and Wagstaff, 1993). Based on this definition, it is 'fair' for two individuals who suffer similar health conditions to be allocated different amount of healthcare resources because they have differential levels of 'capacity to benefit'.

The utilitarian allocation principle has been criticised on a number of grounds. Sen (1973) has argued that the emphasis on maximising the sum of individual utilities (e.g. health) diverts attention from interpersonal distribution, which leads to inequitable distribution of healthcare and health outcomes. Also, studies have shown that in most societies, privileged individuals have better capacity to benefit, and therefore, if healthcare resources are distributed according to capacity to benefit it might lead to greater resources being allocated to the rich than the poor. However, proponents have often argued that the health maximisation principle promotes equity because poor people have greater healthcare needs and therefore a need-based distribution would lead to greater healthcare resources to be allocated to the poor (Culyer, 1990). But Sassi *et al.* (2001) contend this to be implausible because even though poor people have greater health needs, in most societies they have limited potential to improve their health and therefore healthcare resources are mostly allocated to the rich. Le Grand (1991) has also noted that the utilitarian emphasis on health need as a basis for equitable distribution of healthcare resources leads to the erroneous impression that all disparities in health status are inequitable. According to him, an equitable distribution should be one which is based on what individuals deserve rather than just health need.

### ***Libertarianism***

Libertarianism emphasises individual freedom and autonomy as a basis for achieving equitable distribution. An example of libertarianism is *entitlement theory*, which is espoused by Robert Nozick. This theory suggests that a fair distribution is one which involves a 'just' acquisition of an item and a free exchange of that item between individuals (Nozick 1974). A 'just' acquisition of an item is one which was obtained through earnings, inheritance, or redistribution by government of illegally acquired goods. Nozick argues that a legitimate acquisition of an item by an individual accords them with an exclusive property right to that item, which can be transferred to another person only by mutual agreement. The entitlement theory emphasises that in order to achieve equity societal resources should be allocated through market transaction. It argues that the role of the state should be limited to the protection of individuals' properties and facilitation of market exchange.

The entitlement theory is manifested in the health sector in terms of market-based solutions in healthcare delivery in which individuals are expected to make out-of-pocket payments to services providers to obtain healthcare (Pereira, 1989). Government health programmes such as national health services and SHI, which are based on mandatory public contributions to

healthcare cost, are regarded as unfair because individuals are 'coerced' into making financial contributions to the programme against their will, which undermines their freedom of choice. LeGrand (2007) argued that market-based solutions facilitates choice and competition and minimizes the advantage that privileged individuals often have in public health service delivery systems. Also, they incentivize providers to be responsive to users' needs, including those of low socioeconomic groups, which could facilitate equity of access to quality healthcare services. However, critics argue that strict market-based approaches could lead to greater inequities because most poor and vulnerable populations are unlikely to be able to afford to pay for needed healthcare services (Ruger, 2006). But although proponents of the entitlement theory recognise the need to help deprived populations to meet their healthcare needs, they argue such help should be voluntary.

In light of the drawbacks of the entitlement theory in the provision of public health services, Enthoven (1980) has put forward the decent minimum approach which suggests that individuals should have the right to a decent minimum healthcare. According to Buchanan (1984), a decent minimum healthcare is needed to address 'institutional injustices' in health as well as ensure the provision of public health services. Enthoven does not specify what a decent minimum health services precisely entails, but suggests it should be limited to basic healthcare services that are needed to promote individuals' wellbeing. Based on this, Pereira (1989) has criticised the decent minimum approach for being too imprecise and subjective, and that it would make it difficult to enforce healthcare equity. Buchanan (1984) contends a fixed decent minimum package is not realistic due to the disparities in states' ability to provide healthcare services. Another difficulty with the decent minimum approach is the variations in the healthcare needs of individuals that are required to promote their wellbeing. Nonetheless, the decent minimum approach has been applied in the NHIS in the form of a standard benefits package to which every insured member is entitled.

### ***Egalitarianism***

Egalitarianism is based on the idea that equality is the basis upon which equity can be achieved. At the extreme of egalitarianism is the view that individuals should be allocated an equal or identical amount of the distributed item (Barbeuf, 1796 cited in Gospath, 2011). But this view has been criticized for being practically untenable, inefficient, and insensitive to individuals' differences, and therefore could lead to inequities (Olsen, 1997). A great deal of debate exists

within egalitarian circles as to what the object of equal distribution should be, with suggested candidates being resources, liberties, capabilities and welfare (Sen, 1992).

Dworkin (1983) argued that society should be concerned about promoting *equality of resources* that are needed to achieve individuals' life goals including talent, intelligence, health, and 'primary goods' (e.g. income). The application of this principle in the health sector entails the distribution of healthcare resources to achieve equality of health status. Although Dworkin argues for the need for equality of resources, he noted that in some cases it is necessary to treat individuals differently by compensating for constraints that they are not personally responsible for. For example, people who have a disability may need greater resources to be able to operate in the same level as able-bodied persons. However, the limitation of Dworkin's proposition is that it does not explicitly say what 'equality of resources' actually entails. That is, whether it means equality of access to resources or equality of utilisation of resources. Also, it is not clear if the proposition is applicable to just public resources or includes private resources as well (Pereira, 1989).

Another egalitarian perspective is provided by Rawls (1971), which argues that society should rather be concerned with equalising liberties. These liberties include: the right to vote and run for office; freedom of speech and assembly; liberty of conscience; freedom of personal property; and freedom from arbitrary arrest. He also proposed a set of 'primary goods' which need to be distributed equally, including income, wealth, positions of responsibility, and self-respect. According to him, these liberties and goods are essential for individuals' to 'flourish'. In addition, Rawls put forward the '*maximin*' principle which suggests that the primary goods should be distributed in such a way that they improve the position of least advantaged people in society.

Some commentators have criticised Rawls' theory for excluding health in the list of primary goods because a good health status is essential for human 'flourishing' (Daniels, 1985). But Arrow (1963) contends that adding health to the list would be too expensive and unaffordable because it would mean that policymakers have to ensure that everyone attains the same level of health status as the healthiest person in society. Pereira (1989) has argued that the application of the maximin principle in health would lead to compensating people whose poorer health or inadequate access to healthcare is due to their own fault or decision – and therefore inequitable. Nonetheless, the maximin principle has been applied in many health policies, especially in low income countries, where positive discrimination have been used to allocate

more healthcare resources to vulnerable and disadvantaged populations (Bloom, 1975). For example, the NHIS' policy of excluding indigent population from premium payments appears to have been inspired by the maximin principle.

Another egalitarian approach has been advanced by Sen (1992) which argues for *equality of capabilities* among individuals. Sen criticised the Rawlsian approach for not paying greater attention to what 'primary goods' can do for individuals. He contends that human beings are fundamentally different in their ability to convert resources into useful outcomes, which means that an equal distribution of resources alone is unlikely to produce equal outcomes. Therefore, he proposed that social policy should focus on equalising individuals' 'capabilities'. That is, an individual's ability to pursue valuable 'functionings' ('doings' and 'beings') in life. These capabilities entail both physical resources and what the resources are capable of doing for the individual. The capability approach is mainly aimed at ensuring equality of opportunity so that individuals can perform functions that are valuable to them. An application of this approach in the health field would entail ensuring equality in the *benefits* that individuals obtain from healthcare resources rather than just the equality of the actual healthcare resources (Pereira, 1989).

A similar argument as the capabilities approach has been suggested by Daniels (1981) who argued that individuals should be given an equal opportunity to pursue their *fair share of normal opportunity range* by promoting good health status. This approach puts greater emphasis on access to healthcare because it ensures that individuals are not constrained by ill-health and also are able to pursue their fair share of opportunities in life. It proposes a multi-tier healthcare system with a basic tier providing primary health services and another tier covering less 'important' services that would enable individuals to meet their healthcare preferences. Daniels (1985) later pointed out in his writings that his proposition for a basic health service package is not a recommendation for a *universal right* to minimum health service package, but rather a suggestion that society's resources should be allocated in a way that promotes fair equality of opportunity.

Table 3.3 provides a summary of the propositions of the various equity theories and how they are manifested in the organisation and distribution of health resources.

**Table 3.3 Summary of equity theories and implications for the healthcare system**

<b>Theory</b>	<b>Approach</b>	<b>Notion of equity</b>	<b>Implications for the healthcare system</b>
Utilitarianism	Utilitarianism	Resources should be distributed to maximise individual's utilities (e.g. happiness, preferred and satisfaction )	Healthcare resources should be allocated based on health need - e.g. health status, capacity to benefit.
Libertarianism	Entitlement theory	Resources should be acquired justly and transferred through market transaction.	Out-of-pocket healthcare financing; market based health service provision; less emphasis on publicly funded and organised universal healthcare system.
	Decent minimum Approach	Equality of access to basic healthcare services. Respect for individuals' autonomy and choice.	A two-tier healthcare system with a basic tier providing universal primary healthcare services and another tier providing services that can be purchased to meet individuals' health preferences.
Egalitarianism	Equality of resources	Equality of allocation of talent, intelligence, health, and income.	Equal access to healthcare services
	Rawl's theory of justice and maximin	Equality of liberties and 'primary goods'. The allocation of primary goods should be done in such a way as to improve the situation of individuals who are worse-off in society.	Distribution of healthcare according to health needs. Individuals with greatest needs should be given greatest attention. Positive discrimination in the distribution of healthcare resources in favour of the worse-off in society.
	Capabilities approach	Equality of capabilities to pursue valuable functionings in life.	Allocation of healthcare resources to ensure equality of access to health benefits.
	Fair equality of opportunity	Equality of opportunity to achieve one's objectives in life.	Multiple-tier health care system. Removal of barriers of access to basic (primary) healthcare.

Source: Author's construct.

All the above equity theories are useful for understanding the policy objectives of the healthcare system of Ghana (section 3.3.3). However, the egalitarian proposition appears to resonate well with the principles and objective of SHI (and the NHIS in particular). This is because SHI is based on collective risk sharing and equal access to healthcare, which are embodied in egalitarianism. Therefore, the next section looks at various definitions of equity in healthcare that are grounded in the egalitarian principles with the aim to finding a suitable definition to ascertain the equity impact of the NHIS.

### **3.2.2 Definitions of equity in healthcare**

There are several conceptions of equity in healthcare; however, this section focuses only on those that are based on egalitarian principles. These include: equality of utilisation based on need, equality of opportunity/access, equality of choice sets, and equality of access among more or less advantaged social groups.

#### **3.2.2.1 *Equality of utilisation based on health need***

This equity principle suggests the need for healthcare to be distributed according to health need. The emphasis on health need ensures that healthcare services are distributed not on the basis of individuals' socioeconomic status but rather their level of need for healthcare (Le Grand, 1991). This conception recognises individuals' differences in their ability to convert healthcare resources, and therefore focuses on equal *healthcare utilisation* rather than just healthcare resources. This suggests that in some cases individuals who have equal health need may require an unequal amount of resources in order to gain equal utilisation due to variations in their level of endowment. For example, a rural resident may require more resources to be able to utilise healthcare services located in an urban area as compared to an urban resident. What this equity principle means for coverage in the NHIS is that it is inequitable if enrolment is skewed along socioeconomic lines.

This equity definition is operationalised in terms of horizontal (i.e. equal treatment for equal need) and vertical (i.e. unequal treatment for unequal need) equity principles. However, Mooney (1983) has argued that the application of these principles in research is very challenging due to difficulty in measuring 'health need' and 'treatment' in order to ensure that they are equally

distributed. Most equity studies tend to proxy health need as health status (e.g. illness). But Mooney (*Ibid*) has noted that even though it is possible to ascertain whether a person is ill or not, it is impossible to accurately determine the exact level of their illness in order to allocate treatment equally. In addition, it is difficult to provide 'equal' treatment because medical practices are inherently different from one facility to another and patients also have different level of compliance to medical procedures (Mooney *et al.*, 1991).

Critics have further argued that the emphasis of this definition on 'utilisation' as a basis for achieving equitable access does not reflect the entirety of healthcare access. This is because while utilisation is determined by both the provision of healthcare resources and individuals' ability and willingness to use the resources, the 'equality of utilisation' principle does not take into account individuals' *decision* to use or not to use a particular healthcare services that has been made available to them (Thiede *et al.*, 2007; Oliver and Mossialos, 2004; Mooney, 1983). Thus, the 'equal utilisation' principle is likely to interpret a disparity in utilisation that results from an individuals' decision not to use a particular healthcare service as inequitable, which is obviously not because the lack of use is due to their own choice (LeGrand, 1991). Another limitation of this principle is that it does not take into account differences in the level of quality that individuals derive from the use of a particular health service - it only focuses on the quantity of healthcare services (Waters, 2000).

Perhaps, due to the need to measure 'health need' and 'utilisation', most horizontal and vertical equity studies tend to rely on quantitative research techniques. However, such quantitative approaches are likely to miss much of the demand and supply factors that shape the process of seeking healthcare and are imperative for understanding the equity aspects of healthcare access. For example, a study that quantifies access in terms of utilisation may not reveal the dynamics of the interaction between the healthcare system and the service user.

Although the allocation of healthcare resources based on the vertical and horizontal equity principles is likely to be considered as equitable by many people in Ghana due to its needs-based approach, its application in empirical research is likely to be fraught with many challenges, particularly in regards to assessing healthcare access with a qualitative research approach.

### **3.2.2.2      *Equality of opportunity/access***

This equity definition is an antithesis of the ‘equal utilisation’ principle and focuses mainly on equality of *opportunity* for healthcare rather than utilisation. The emphasis on ‘opportunity’ means that the need to ensure equality of both proximate and distant factors that shape healthcare utilisation and are amenable to policy intervention. This may include equal allocation of healthcare resources as well as the removal of financial, organisational and cultural barriers to healthcare utilisation.

Mooney *et al.* (1991) have defined ‘healthcare opportunity’ in terms of healthcare *utilisation cost*. Based on this they made a distinction between ‘*cost*’, which is the direct and indirect cost in seeking healthcare, and *price*, which is just the direct financial cost associated with seeking healthcare. However, although the idea that healthcare opportunity could be summed as utilisation cost may be plausible, it seems rather implausible to suggest that *utilisation cost* is a function of only supply-side factors, as Mooney *et al.* have done. Studies have shown that the cost of seeking healthcare (or the effect of such cost) is actually determined by both the healthcare system (i.e. supply-side factor) and individual characteristics (i.e. demand-side factors). For example, the actual impact of the cost of a particular healthcare service is determined not just by the actual amount but also the socioeconomic conditions of the individual or household (Russell, 1996). Thus, the use of supply–side interpretation of utilisation cost as a proxy for evaluating equity in healthcare is likely to limit the examination of the totality of factors that shape the equity of healthcare access.

The objective of the NHIS (see section 4.3) seems to epitomise ‘equality of opportunity’ but only in the sense of providing opportunities of access through the removal of financial barriers. Therefore, a comprehensive definition of the ‘equality of opportunity’ principle will be one which conceptualises utilisation cost as a function of both demand and supply side factors and also expands the scope of utilisation cost to include opportunity cost.

### **3.2.2.3      *Equality of choice sets***

Le Grand (1982) contends that the equality of utilisation cost (one of the definitions of equity of opportunity) does not take into account the degree of individual’s choice/control in the cost that

they accrue in accessing healthcare. Also, it does not take into consideration the 'sacrifices' that low income households make in accessing healthcare relative to their high income counterparts. Therefore, he defined equity in healthcare as the *equality of choice sets*. That is, equality of the sets possibilities and constraints that influence the utilisation of a particular healthcare service by an individual. He used 'constraints' to refer to factors that limit individuals' choice over healthcare utilisation and are beyond their control. This definition resonates well with Nozick's (1974) entitlement theory which emphasises 'desert'. It is also similar to Rawlsian maximin principle because it suggests that individuals can be allocated unequal amount of healthcare resources in order to achieve equality of choice sets.

One of the significant aspects of the 'equality of choice sets' definition is that healthcare equity is assessed based on information about healthcare seeking *process* (e.g. time spent in a waiting-room, and out-of-pocket payments) rather than the outcome of healthcare consumption *per se* (e.g. utilization rates). This means that it allows for the ascertainment of process factors that shape healthcare access. Le Grand (1982) argued that differences in access that result from constraints that an individual has no control over are inequitable; but they are not inequitable if the disparities are the result of the individual exercising choice. However, the use of this definition in social research is likely to pose practical challenges, especially in relation to determining the extent of choice/control that an individual has in a particular access situation.

#### **3.2.2.4      *Equality of access among more or less advantaged social groups***

According to Braveman and Gruskin (2003), existing equity definitions are generally difficult to operationalise in research; they therefore set out to propose a 'practical' definition of health equity that can be applied in social research. They defined health equity (rather than healthcare equity) as 'the absence of systematic disparities in health (or in the major social determinants of health) between social groups who have different levels of underlying social advantage/disadvantage' (Braveman and Gruskin, 2003 p. 254). Although this definition focuses mainly on *health*, the equity principles it espouses can be applied to healthcare because it makes reference to the social determinants of health, of which healthcare is a major part.

Braveman and Gruskin drew attention to certain key concepts in their definition which need further clarification. These include 'more and less advantaged social groups', which refers to group of individuals who have different positions in a social hierarchy. 'Social group' refers to

groups that are based on socioeconomic (e.g. defined by income, wealth, occupational class, and educational level), racial/ethnic, gender, geography, and age attributes. Braveman and Gruskin argued that these groups invoke equity concerns because they are associated with certain advantages and constraints in society and therefore influence an individuals' ability to access healthcare. Also, they used 'systematic' to refer to *significant* and *persistent* differences between more and less advantaged social groups. This implies that a particular disparity in healthcare access is inequitable if they are systematically skewed against disadvantaged social groups (Braveman and Gruskin, 2003). Thus, unlike the other definitions in which 'equity' is evaluated on the basis of need or 'desert' ( what an individual deserves), Braveman and Gruskin suggest that disparities that are skewed against socially disadvantaged groups are *automatically* inequitable because they are the result of unjust social structure.

Braveman and Gruskin's (2003) definition is particularly important for examining equity in healthcare for three reasons:

1. It addresses the problem of value judgement in equity assessment because the researcher only has to find out if there are systematic differences between 'more and less advantaged social groups' without needing to evaluate the 'fairness' of the differences.
2. It also allows the researcher to draw upon the identified social group who are faced with a particular inequity in order to probe deeply for factors that influence them.
3. It embraces the concept of equality of opportunity of health or healthcare and therefore allows for process factors that shape inequities to be captured more effectively.

Braveman and Gruskin's definition draws greater attention to how social, political and economic factors shape the distribution of healthcare resources and the extent to which people can benefit from it. Based on this, it provides a justification for positive discrimination in favour of disadvantaged social groups in society. But the drawback to this approach is that it is unable to evaluate inequities *between individuals* because it is based on disparities between groups.

The conception of equity of access to healthcare adopted in this thesis is based mainly around the Braveman and Gruskin's notion of equality between more or less advantaged social groups, although ideas from the other equity definitions are some time drawn upon to augment this approach. The choice of this is partly because while the Braveman and Gruskin definition specifies *how* equity can be achieved; it does not say *what* in healthcare should be equalised.

The 'equality of opportunity' principle seems to provide a better framework for determining what in healthcare should be equalised (e.g. opportunities such as health insurance membership, and availability of healthcare resources) in order to achieve equity in access between various social groups. This approach is discussed in greater detail in chapter 4.

### **3.2.3 Understanding the equity objective of the healthcare system in Ghana**

Having discussed the egalitarian equity conceptions, attention is drawn here to how they apply to the healthcare system in Ghana. Ghana is committed to promoting equity in health and healthcare as evident from the international conventions that it has ratified (e.g. International Covenant on Economic, Social and Cultural Rights) as well as some of its legal and policy documents (e.g. the constitution, and the National Health Policy document) (Jehu-Appiah *et al.*, 2011). However, the theoretical underpinnings of the equity objectives of the healthcare system are not very clear-cut as there are elements of different equity principles embedded in them.

Ghana is a signatory to the International Covenant on Economic, Social and Cultural Rights (ICESCR), which guarantees the right to health. As a result, the 1992 constitution obliges government to create conditions that are necessary to enable individuals achieve good health status (Government of Ghana, 1992). Also, the ICESCR convention establishes an egalitarian principle of equal right to health for all, which has shaped Ghana's domestic health policies. Although the right to health is often subjected to different interpretations, it refers to the right to *opportunities* that enable individuals to enjoy the highest attainable level of health (UNHCR and WHO, 2008). This includes access to the range of resources that determine health status such as healthcare, safe drinking water, sanitation, nutrition, housing, health related information and education. This objective resonates quite well with the equality of opportunity equity principle.

The ICESCR convention and the 1992 constitution provide overarching frameworks for formulating equity objectives within the health system in Ghana. But the specific policy details are outlined in specific health policy documents. The National Development Policy Framework (2010 - 2013) stipulates the overall government health policy objective as: 'to bridge the equity gaps in access to healthcare and nutrition services and ensure sustainable financing arrangements that protect the poor' (Government of Ghana, 2010:p186). Similarly, the Ghana

National Health Policy document sets out the objective of health service provision as ‘....to ensure equitable access to good quality and affordable health, population and nutrition services – services that will improve health outcomes, respond to people’s legitimate expectations and are financially fair’ (MOH, 2007:p42). These objectives appear to emphasise the creation of equal opportunity for health rather than an attainment of equal health status. However, within the wider context of the policy documents, it appears ‘equity’ is used to refer to equality of access to health services (including healthcare) between different social groups – particularly, socioeconomic, gender and geographic groups. The policy documents emphasis measures that promote access to health services among disadvantaged groups, such as the poor, women and rural residents, as an effective approach for promoting equity. This interpretation broadly fits into the egalitarian perspective of equity, particularly, the Braveman and Gruskin’s notion of equity as well as the ‘equality of opportunity for healthcare’ definition.

However, despite the health/healthcare equity objective being egalitarian in nature, measures that are used to implement them are influenced by other equity principles which sometimes undermine the egalitarian principle. For example, the allocation of national health resources in Ghana is based on a range of factors, including capacity to utilise, donor discretion, political influence and health needs (Asante and Zwi, 2009). The reliance on ‘capacity to utilise’ (a largely utilitarian-based principle) as a criterion for resource allocation promotes efficiency, but is likely to lead to inequities because it allows for more resources to be allocated to well endowed areas which have better capacity to utilise those resources without much consideration for the level of need of that area. In many cases the selection of beneficiary groups for donor health programmes is done to reflect the priorities of the donors which in some cases are not consistent with the Ministry of Health earmarked priority groups. Such discrepancies often create greater inequalities in access to healthcare, particularly between geographical areas (*Ibid*). Moreover, political influences often lead to greater allocation of resources to visible areas in the health sector (urban facilities, hospitals etc) and programmes that serve the interest of privileged individuals in society (*Ibid*).

In terms of healthcare financing, the dominant forms of financing in Ghana are out-of-pocket payments and SHI (i.e. NHIS). Out-of-pocket financing system is largely driven by the entitlement theory (libertarian) because it places emphasis on individuals responsibility for their healthcare cost, and healthcare resource are distributed based on market principles. This approach has been noted to be inequitable because it allows for healthcare resources to be

allocated on the basis of individuals' ability to pay rather than their health needs (Waddington and Enyimayew, 1989). The key objective of the NHIS is to promote universal health insurance coverage as a way of enabling individuals to have equal access to healthcare – an egalitarian objective. In principle, the NHIS seems relatively equitable both in financing and access to healthcare largely due to the collective nature of contributions for healthcare and the relatively better affordability of healthcare costs that it provides (e.g. see chapter 7). In addition, the NHIS provides premium exemptions to vulnerable populations as a way of providing equal opportunity for health insurance, which is in line with Rawls maximin principle. It also guarantees a decent minimum benefits package of healthcare services and medicines for all members. Therefore, the NHIS could be said to be based largely on egalitarian principles. However, the fact that the majority of individuals have to pay premium to insure makes the NHIS libertarian in some respect.

Thus, although the healthcare equity objectives of the NHIS and the healthcare system in Ghana are related to several equity principles, it appears they are closer to the equality of opportunity and Braveman and Gruskin's conceptions of equity. This partly explains why these principles, particularly the Braveman and Gruskin conception, are used to ascertain the extent of the NHIS' impact on equity of access to healthcare in this thesis.

### **3.3 Conclusion**

One of the key themes that emerged from this chapter is the fact that no single model of access is sufficient in explaining access to healthcare in the Ghanaian context. As a result, there is the need for complementarity between the behavioural, fit and empowerment models in order to effectively assess the complexities of access to healthcare. It emerged also that the Braveman and Gruskin conception of equity articulates with the equity objectives of the healthcare system of Ghana and the NHIS in a much better way. Based on this equity of access to healthcare was conceived in terms of the extent to which socially disadvantaged groups are able to obtain health insurance and access to healthcare services. This allowed the *equity* impact of the NHIS to be assessed in a way that connects with the objectives of the healthcare system and the NHIS.

The conceptual framework of this thesis, which is discussed in the next chapter, is built mainly around the behavioural, fit and empowerment models as well as the Braveman and Gruskin conception of equity. Access to healthcare is conceptualised to be influenced by individual's or household's predisposing, enabling and need factors. The lack of access or the presence of it is viewed in terms of the level of empowerment by individuals as well as the extent to which the characteristics of the individual are compatible to that of the healthcare system (including the NHS).

## **Chapter 4: Conceptual framework and a review of literature on the impact of SHI on healthcare access**

### **4.0 Introduction**

This chapter follows on from the discussion in the previous two chapters and focuses on two main things. First, it attempts to develop a conceptual framework to show the relationship between SHI and access to healthcare. The framework dwells mainly on ideas from the previous two chapters and proposes a holistic approach for evaluating the impact of SHI on equity of access to healthcare. This is followed by a review of secondary literature on the impact of SHI (including the NHIS), which is based on the approach proposed in the conceptual framework.

### **4.1 Conceptual framework**

The conceptual framework of this thesis is developed largely around Braveman and Gruskin's (2003) conception of equity as well as the behavioural, fit and empowerment models of healthcare access. This section outlines how healthcare access and equity of access to healthcare are defined in this thesis as well as the relationship between SHI and healthcare access.

#### **4.1.1 Access to healthcare**

Access to healthcare is conceived here in a broader perspective as consisting of four dimensions: health insurance coverage, healthcare affordability, healthcare availability and healthcare utilisation (see section 3.1.2). These dimensions are essentially based on those proposed by the fit and empowerment models. Although the conventional healthcare access dimensions do not include health insurance coverage, it is added to the dimensions of access in this thesis to underscore its importance in an insurance-based healthcare system. Also, although the fit and empowerment models add 'acceptability' as a dimension of access, it is used here to explain why an individual may or may not have healthcare access rather than as a separate dimension of access. Thus, by defining healthcare access based on the four

dimensions, this framework is able to capture both process and outcome factors that shape the entirety of healthcare access. The access dimensions are defined in this framework in relation to the NHIS as below:

1. Health Insurance coverage: This refers to the ability of an individual to insure with the NHIS and use the NHIS' benefit services. To be fully insured in the NHIS, an individual needs to first register with the DMHIS by paying a registration fee and a year's premium. This is followed by the individual having to wait for three months before they receive their NHIS card before they can access the benefit services. This thesis considers an insured person as somebody who is fully enrolled in the NHIS and has a valid NHIS membership card.
2. Healthcare affordability: This refers to the financial ability of an insured person to obtain needed healthcare services without suffering financial hardships. 'Financial hardship' entails catastrophic expenditure due to healthcare cost. This includes both direct and indirect cost of accessing healthcare.
3. Healthcare availability: This refers to the presence of sufficient and quality healthcare services to enable an insured person fulfil their healthcare needs. It also entails the ability to access available healthcare resources as well as the organisation and nature of healthcare service delivery. 'Healthcare quality' here refers to the promptness with which an insured person is able to receive needed healthcare (i.e. waiting time) and the nature of health workers attitude towards insured patients during treatment consultation.
4. Utilisation of healthcare services: This refers to the ability of an insured person to *use* needed healthcare services, including their preferred provider.

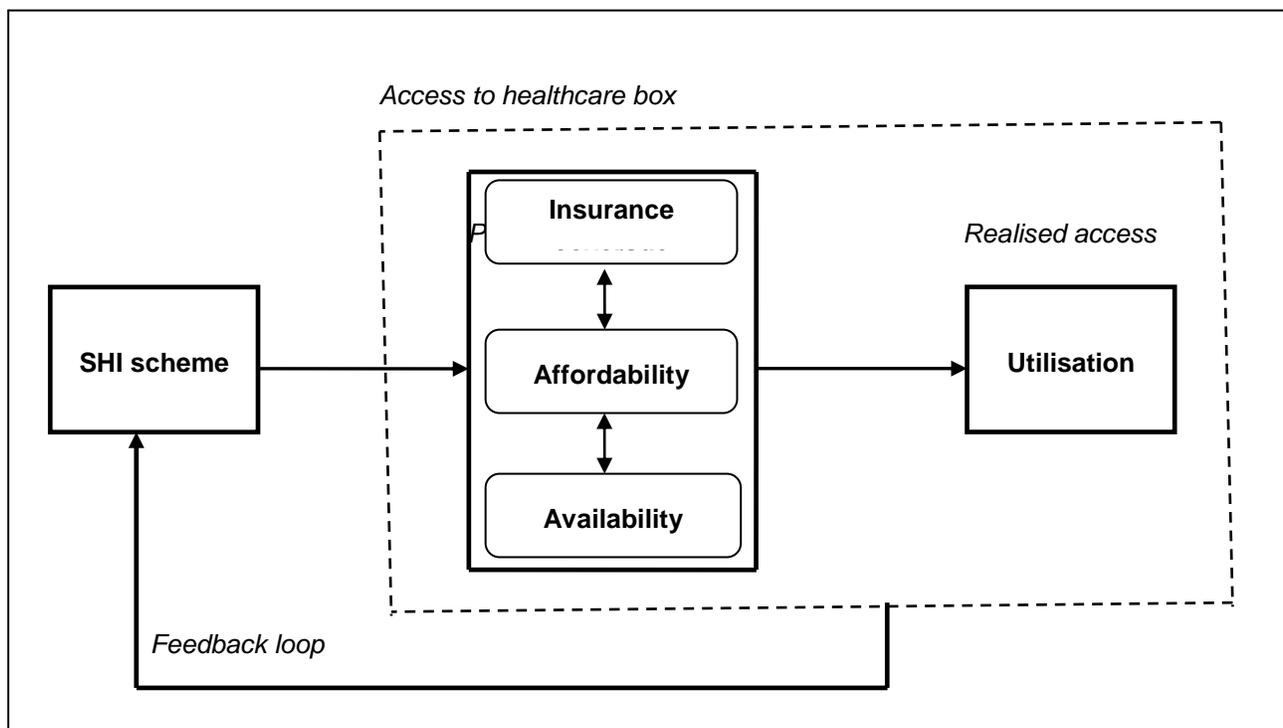
These dimensions are related to one another, and each is needed to ensure that an individual is able to fulfil their healthcare needs. A deficiency in each of them is likely to lead to the individual having only a *potential* access to care (i.e. partial access). For example, insurance coverage is needed in most cases for an individual to be able to afford healthcare services, particularly expensive healthcare. Similarly, an adequate availability of healthcare services is needed to ensure that an *insured* person is able to utilise the 'affordability' gained from the insurance coverage to address their healthcare needs. Also, the organisation and delivery of available healthcare services is an important determinant of whether an individual is able to use healthcare services or not.

In this thesis each of the dimensions is examined separately in order to be able to nuance the factors that shape them. They are assessed largely with information on individuals' perceptions and experiences as well as enrolment and healthcare utilisation data. The behavioural model's framework of predisposing, enabling and need factors is employed to identify factors that constrain or facilitate access in each of the dimensions, while the fit and empowerment models are employed to understand how the factors shape the dimensions.

#### 4.1.2 The relationship between SHI (NHIS) and healthcare access

There are several pathways through which SHI schemes shape healthcare access, including revenue generation, risk pooling, benefit package and provider payment system (see section 2.2). These pathways can be captured within the access dimensions. As shown in Figure 4.1 below, the framework for this thesis recognises that SHI impacts on healthcare access through the four access dimensions: insurance coverage, affordability, availability and utilisation. These are located within the dotted box (i.e. the healthcare access box) in the diagram.

**Figure 4.1: Framework for evaluating the impact SHI on healthcare access**



Source: Author's representation.

The first thick arrow which connects from the SHI shows that SHI scheme (e.g. NHIS) has a direct influence on individuals' health insurance coverage, affordability of healthcare services, and the availability of healthcare (see Table 4.1). Each of these dimensions represents a 'potential' to access healthcare (potential access). The double-headed arrows connecting the dimensions in the potential access box indicate an interaction and influence between the three dimensions. For example, an SHI scheme that facilitates greater affordability of healthcare is likely to persuade many individuals to insure, which would increase the coverage level of the scheme. Similarly, high population coverage by a scheme could improve its financial position and enhance economies of scale which could lead to the expansion of the benefit package to increase healthcare affordability. The level of population coverage can also influence the amount of income of healthcare providers and the extent to which they are able to improve healthcare services. At the same time, the level of the availability and quality of healthcare services can impact on the uptake of the insurance scheme.

The arrow connecting the 'potential access' box to the 'realised access' box shows that healthcare utilisation is determined by a constellation of influences by the potential access dimensions (i.e. insurance coverage, affordability and availability). The feedback loop shows a learning pathway, which is based on the outcome of the scheme's impact on the entirety of healthcare access and allows for the scheme to be improved.

The nature of an SHI scheme's impact on healthcare access depends largely on the scheme's design and implementation features. The impact could be either positive or negative. As discussed in section 2.2, the revenue generation and the risk pooling mechanisms of SHI schemes are particularly important in determining the extent of membership coverage. The purchasing mechanism has greater influence on the affordability and availability of healthcare services. Table 4.1 outlines some of the specific hypothetical pathways through which an SHI scheme could impact on healthcare access based on the four healthcare access dimensions. These pathways provide an initial lead for examining the effects of the NHIS on equity of access to healthcare.

The effect of an SHI scheme on each of the access dimensions is likely to produce equitable or inequitable outcomes. For example, an SHI scheme could lead certain individuals to be able to insure, afford or utilise healthcare services more than others depending on the level of compatibility of the characteristics of the individuals and the design and implementation features

of the scheme. Table 4.1 shows some of the pathways through which an SHI scheme could influence equity of access to healthcare through the various dimensions of access.

**Table 4.1 SHI influence on the dimensions of healthcare access**

<b>Dimension of healthcare access</b>	<b>Positive effect</b>	<b>Negative effect</b>
<b>Insurance membership</b>	Increases the ability of individuals to obtain health insurance by lowering cost of insurance membership. Improved affordability and availability of healthcare motivate new members to enrol. Higher enrolment leads to lower premium costs which lead to further greater enrolment (Jutting, 2003).	Could lead to disparities in access to healthcare by enabling some individuals such as formal sector workers to insure more than informal sector workers.
<b>Affordability</b>	Could increase the ability to afford healthcare due to prepayment and collective sharing of healthcare cost.	Could increase the cost of care through increased use of non-covered service and cost sharing.
<b>Availability</b>	Could lead to improvement in healthcare providers' income which can be used to expand access and improve quality (Jutting, 2003). Could also incentivise providers to improve the quality of healthcare service delivery.	Scheme related administrative processes could slow down service delivery in healthcare facilities. Could lead to overcrowding and long waiting times in healthcare facilities due to increase utilisation of care by insured members.
<b>Utilisation</b>	Increases the ability and incentive to use formal care.	Could lead to an increase in moral hazards (i.e. provider induced demand, frivolous use of healthcare, and a reduction in health prevention activities by insured members)

Source: Author's representation.

### **4.1.3 Definition of equity of access to healthcare**

The definition of equity of access to healthcare adopted in this framework is adapted from Braveman and Gruskin's equity conception. Equity of healthcare access is defined in this thesis as: *the absence of systematic disparities in healthcare access (or the dimensions of access) between social groups who have different levels of underlying social advantage/disadvantage*. Conversely, inequity of healthcare access is *the systematic disparities in access to care skewed against disadvantaged social groups*. To reiterate, this thesis considers variations in healthcare access that are *systematic* (i.e. significant and persistent) and skewed against disadvantaged social groups as inequitable.

'Social group' is used in this thesis to refer to the main socioeconomic, gender, geographic, and occupational groups in society. These social groups were identified from a participatory wellbeing exercise conducted in the study area (see section 5.2.2). Three socioeconomic categories are used in this thesis, namely, well-off, middle class, and poor. The gender categories are male and female, while rural and urban are the key geographic categories used. The occupational categories are formal and informal. In addition, poor, female, rural residents, and informal sector workers are identified as relatively disadvantaged in their respective social groups. Thus, based on the definition adopted here, an inequitable access is when NHIS membership coverage, affordability of healthcare, availability of healthcare, and the utilisation of healthcare are systematically skewed against these socially disadvantaged groups.

This conceptual framework provides a holistic approach for examining all aspects of the NHIS' influence on healthcare access. The next section applies the access dimensions outlined in the conceptual framework to review secondary literature on the impact of SHI (including the NHIS) on healthcare access and the equity aspects of it.

## **4.2 Review of literature on the impact of SHI on healthcare access**

Based on the conceptual framework set out in the previous section, the impact of SHI on access can be ascertained within the various access dimensions. Therefore, this review is based on secondary literature and examines how SHI (including the NHIS) affect insurance membership coverage, affordability, availability and utilisation of healthcare.

### **4.2.1 Insurance coverage**

Although SHI is considered as an effective way of enabling poor people to obtain health insurance, the literature shows that in most SHI schemes in low income countries the uptake of insurance is very low (Gine and Yang, 2007). A review of enrolment patterns of SHI schemes in low income countries by Acharya *et al.* (2012) revealed that coverage level varied from one country to another and are based on the design features of the scheme. Thus, low enrolment has been noted to be a key reason for the poor performance of SHI schemes in promoting healthcare access in low income countries (Bennett *et al.*, 1998). The literature reveals a number of factors that affect the uptake of health insurance. These factors can be categorised broadly into: personal and household factors, socio-cultural factors, scheme factors, and healthcare system factors. Most of the examples on these determinants are taken from CBHI literature as the principles of enrolment are similar to those of SHI in low income countries (McIntyre, 2013).

#### ***Personal and household factors***

Many studies have reported a direct correlation between income and enrolment in SHI schemes (Asante and Aikins, 2008; De Allegri *et al.*, 2005; Jutting, 2005). The reason for this relationship is partly because health insurance is a 'normal' good whose acquisition is regulated by price; therefore, high income offers greater ability to afford the cost of membership (Bhat and Jain 2006). In line with this, Sarpong *et al.* (2010) found that in the Asante Akim district in Ghana enrolment in the NHIS was significantly higher among high socio-economic groups. Similar observations have been made by Wang *et al.* (2005) in relation to enrolment patterns in a CBHI scheme in rural China. However, high income can also sometimes be a disincentive for enrolling in an SHI scheme. In a study in Zaire, Criel and Kegels (1997) discovered that high income households were relatively less likely to enrol in a CBHIS because they could afford to pay out-of-pocket fees for healthcare and private health insurance. Similarly, Jehu-Appiah *et al.* (2011a) found that enrolment in the NHIS in the Eastern and Central regions in Ghana was relatively higher among lower income groups, and attributed this partly to the groups' greater appreciation of the value of the NHIS due to their income constraints as well as the NHIS' premium exemption for the poorest.

Most SHI schemes in low income countries have often relied on measures such as credit facilities and premium subsidies to minimise the effects of income and socioeconomic status on enrolment. However, Ahuja and Jutting (2004) have emphasised the need to differentiate between two categories of the poor – namely, those who live below the poverty line (the extremely poor) and those who live above but close to the poverty line (the poor) – for purposes of using such measures to promote enrolment. They argued that whereas access to credit may work better with those who live above the poverty line, those below the poverty line are likely to use such credit to meet their immediate consumption needs rather than enrol in an insurance scheme. Therefore, they suggested that poorest people require premium subsidies (or exemption) to participate effectively in insurance schemes while those who are less poor need credit to facilitate their coverage.

An individual's level of education and literacy has also been noted to have considerable influence on their uptake of health insurance. On the one hand, education could lead to the adoption of healthy lifestyle and low health risks, and therefore lead to the perception that an individual does not need health insurance. On the other hand, education could facilitate better access to information, improved income, and greater aversion to risk, which could increase the willingness for and ability to enrol in an insurance scheme. According to Dubois (2002), people who have had formal education are likely to pay attention to health hazards, be receptive to innovation, and understand the benefits of risk sharing, which facilitate the uptake of health insurance. Van De Ven and Van Praag (1981) also contended that educated people are likely to enrol in a health insurance because formal education keeps people informed about health services that are available in the healthcare system as well as enable them to appreciate the benefits of insurance coverage. A study by Jutting (2005) in Senegal found that higher education and literacy levels increased the probability of enrolling in a CBHI scheme. Similar findings have been reported by Jehu-Appiah *et al.* (2011) in relation to the NHIS who found that higher education increased the chances of individuals to be employed in the formal sector which provides an 'automatic' membership in the NHIS.

The primary function of health insurance is to provide protection against financial cost of illness; therefore, poor health status can be expected to increase the incentive for an individual to purchase health insurance. But the evidence on the relationship between health status and enrolment in SHI schemes is mixed and sometimes rather inconclusive. Perhaps, this is due to the strong association between health and socio-economic variables, and therefore making it

difficult to ascertain whether the uptake of health insurance (or the lack of it) is the result of individuals' health status or their socioeconomic status. A study conducted by the Health Systems 20/20 Project (2009) found that NHIS members were about three times more likely to report of an illness in the past two weeks preceding the survey, and about twice more likely to report of having a chronic health condition compared with the uninsured. However, the difficulty with this finding is that the high illness among the insured group may have been due to their health insurance coverage which enabled them to go to hospital and undertake medical screening to uncover 'subtle' illness without a charge. Insured persons are also more likely to be open about their illness because they can access 'free' healthcare. However, a contrary finding was found by Osei-Akoto and Adamba (undated) which noted that women who were enrolled in the NHIS had lower health risks compared with non-members. Here too, the high health risk among the uninsured may have been due to low income individuals (who often have poor health status) being unable to enrol in the NHIS.

Household characteristics such as size can also affect the ability of an individual to enrol in an SHI scheme. Smaller household sizes are associated with lower enrolment costs and therefore could provide greater enrolment opportunity for members than individuals in bigger households. However, evidence on the effect of household size on enrolment is rather mixed. A study by Basaza *et al.* (2008) in Uganda found that individuals who belonged to bigger households were relatively less likely to enrol in a CBHI scheme due to difficulty in affording the cost of membership. On the contrary, Dubois (2002) discovered that individuals in bigger households were relatively more likely to enrol in a CBHI scheme in Burkina Faso than those in smaller households; but he attributed this to a household enrolment system which discounted premiums for larger households.

In most low income countries the head of household makes decisions about members' enrolment in an insurance scheme, therefore, the socioeconomic and gender attributes of the household head has been found to affect participation in an insurance scheme (De Allegria *et al.*, 2006; Dong *et al.*, 2009; Jehu-Appiah *et al.*, 2011). Nguyen and Knowles (2010) studied enrolment patterns among students in an SHI scheme in Vietnam and found that children from female headed households were more likely to enrol in the scheme than those from male headed households. A possible explanation to this is that women are likely to find health insurance attractive, mostly due to their reproductive healthcare needs and traditional role as carers within the household (Sindelar, 1982). However, a contrary finding has been reported by

Dong *et al.* (2009) which noted high drop-out rate among individuals from female-headed households in a CBHI scheme in Burkina Faso due to an inability to afford the renewal costs (Dong *et al.*, 2009).

### ***Socio-cultural factors***

One of the key socio-cultural factors that influence enrolment in SHI schemes is social capital (Coate and Ravallion, 1993). Social capital refers to the collective value of social networks and the inclination of members of the network to do things for each other (Putnam, 2000). Social capital is manifested in the form of voluntary reciprocity, group cohesion and trust (Dekker and Uslaner, 2001). A strong social capital in a community is likely to facilitate enrolment in an SHI scheme because members of the community are likely to be willing to cross-subsidise and financially support each other to enrol. Based on a study of CBHI schemes in West Africa, Atim and Sock (2000) discovered that membership in small and unified groups increased individuals chances of enrolling in a CBHI scheme. However, Jütting (2005) found no significant relationship between the level of trust and solidarity among community members and participation in CBHI schemes in Senegal. This suggests that the influence of social capital on enrolment is not uniform, and depends on the context.

Studies also suggest that the geographic location of an individual can also have a strong influence on their willingness and ability to enrol in an insurance scheme (Atim and Sock, 2000). Rural residents can be expected to participate less in insurance schemes due to the strong connection between rurality and low socioeconomic attributes and access to insurance and healthcare resources. In relation to this, Chankova *et al.* (2008) found that enrolment in the NHIS among rural residents was significantly lower than urban residents. However, there is some evidence that also suggests that rurality can sometimes facilitate participation in insurance schemes, particularly where there is high social capital among community members. A study in the Eastern and Central regions of Ghana revealed that rural residence increased the odds of enrolling in the NHIS (Jehu-Appiah *et al.* 2011).

Lastly, cultural attitude towards health and risk sharing can also influence an individual's decision to participate in an SHI scheme (Lee *et al.*, 2010). In a study in Burkina Faso, De Allegri *et al.* (2006a) found that members of the Bwaba ethnic group were more likely to enrol in a CBHI scheme than other ethnic groups because they tended to be more receptive to innovation and found health insurance as an attractive mechanism for financing healthcare.

However in Burkina Faso, De Allegri *et al.* (2006b) found that the concept of premium payment was perceived by certain ethnic groups as an 'invitation' of illness from the ancestors and therefore discouraged many people from enrolling in a CBHI scheme.

### ***Scheme factors***

Some of the key scheme factors which have been found to affect enrolment decisions are premium cost and benefit package. The benefits package is important because it determines the actual value of the health insurance to the individual (see section 2.2.3). Many studies have reported of a strong association between the content of a benefits package and enrolment in an SHI scheme (Basaza *et al.* 2008; Fonteneau, 2003).

In a number of SHI schemes in low income countries, unaffordable premiums have been found to have a strong influence on non-enrolment (De Allegria *et al.*, 2006a). This seems surprising given that SHI premiums are supposed to be charged according to individuals' ability to pay. In a study of a CBHI scheme in Burkina Faso, De Allegri *et al.* (2006b) noted that even though premiums were very low, many households still could not afford them due to high income constraints. Also, commenting on CBHI schemes in rural West Africa, De Allegria *et al.* (*Ibid*) noted that the main reason for low enrolment in the schemes was institutional rigidities such as the timing and collection modalities of premiums rather than the amount of the premium per se. Nonetheless, income constraints and premium collection modalities are important determinants of the affordability membership in SHI schemes, and empirical findings on these are discussed in relation to the NHIS in chapter 6.

The perception of individuals about the credibility of an insurance scheme is also another important determinant of enrolment. This mostly relates to individuals perception about the competency of scheme managers and whether the scheme would deliver on its promises (Criel and Waelkens, 2003). According to De Allegri *et al.* (2006a), the credibility of a scheme is influenced by a range of factors including the scheme's management, the documents that people receive when they enrol, and the level of participation by important community members. Also, the lack of information about the scheme and avenues for complain leads to greater grievances and scepticism about insurance scheme (De Allegri *et al.* 2006a). Schneider (2005) has noted that due to issues of trust most people in low income countries often adopt a 'wait-and-see' attitude in relation to enrolling in a new SHI scheme. The impact of trust on enrolment

in the NHIS in Ghana can be expected to be greater given the high level of politicisation that surrounds the NHIS' operation (Yogesh, 2007).

### ***Healthcare system factors***

Healthcare system characteristics such as the availability and quality of healthcare also affect enrolment in insurance schemes. Nguyen and Knowles (2010) noted from a study in Vietnam that enrolment was positively associated with the quality of services provided by the insurance scheme and negatively correlated with the quality of uncovered services. Also, Chankova *et al.* (2008) discovered that in Ghana enrolment in the NHIS was significantly higher in communities where there was greater availability of healthcare facilities. Similar findings have been made by Nketiah-Amponsah (2009) who found an inverse relationship between NHIS enrolment among women and distance to the nearest healthcare facility.

The determinants of enrolment discussed in section 4.2.1 show that membership coverage in SHI schemes is influenced by a range of individual and societal factors. These would provide a useful framework to understand the factors that shape inequities in NHIS coverage in the Tamale District (see chapter 6).

### **4.2.2 Affordability of healthcare**

One of the key objectives of SHI is to promote financial access to healthcare by reducing out-of-pocket payments and protecting against risk of catastrophic health expenditure (Zweifel and Manning, 2000). High out-of-pocket payments have been noted to deny low income households access to needed healthcare and also create impoverishment which limits the consumption of other wellbeing-enhancing goods (WHO, 2010). In a study in rural Guatemala, Ron (1999) found that low income households were more able to afford healthcare after joining a CBHI scheme. Similar findings have been noted by King *et al.* (2009) in relation to the *Seguro Popular* (an SHI scheme) in Mexico. Nguyen *et al.* (2011) used survey data to evaluate the impact of the NHIS on households' out-of-pocket spending and catastrophic health expenditure in the Nkoranza and Offinso districts in Ghana. They found that although insured households still incurred out-of-pocket healthcare expenditure, they were significantly less compared with those of uninsured households. They concluded that the NHIS had had a positive impact on financial risk protection.

However, there is some evidence to suggest that SHI can sometimes lead to an increase in out-of-pocket expenditure. For example, in china, Wagstaff and Lindelow (2008) found an increased in catastrophic health expenditure among low income households who were insured with the Cooperative Medical System (an SHI scheme). This was because the scheme resulted in an increase in the consumption of healthcare services that members had to make co-payments for. Also, Wagstaff (2007) evaluated the impact of the Health Care Fund for the Poor scheme (SHI scheme) in Vietnam and found that insured low income households were still at risk of catastrophic expenditure due to the costs of uncovered healthcare services. SHI can lead to an increased in informal payments in healthcare facilities due to the removal of direct payments by patients to healthcare providers (Witter and Garshong, 2009).

In sum, the available evidence suggests that the effects of SHI on the affordability of healthcare are not always positive. Chapter 7 examines how the NHIS impacts on the affordability of healthcare in much detail.

### **4.2.3 Availability of healthcare**

Criel and Kegels (1997) have argued that SHI could improve the availability of healthcare by increasing the income of providers which can be used to improve the quantity and quality of healthcare resources. However, SHI can also have an adverse effect on healthcare resources by increasing pressure on the resources through an increase use of healthcare services (Atinga *et al.*, 2012). The secondary evidence on the effects of SHI on healthcare availability is generally thin. However, a study conducted by SEND (2010) suggests that the NHIS has had adverse impact on the availability of healthcare in Ghana. The study discovered that due to the NHIS there has been an increase in the demand for healthcare without a corresponding expansion in healthcare resources, creating widespread long waiting times and staff-overload in many facilities. Anecdotal evidence reported by the Ghana Ministry of Health (2008) suggested that most NHIS healthcare facilities were faced with late claims payment which often resulted in the shortage of drugs and medical supplies.

In light of the limited evidence on the relationship between SHI and the availability of healthcare, this thesis ascertains how the NHIS impacts on healthcare services (see chapter 8).

#### 4.2.4 Utilisation of healthcare services

There is a large body of evidence that shows that SHI improves the ability to use formal healthcare services. In a study of the New Cooperative Medical System (NCMS) in China, Wagstaff *et al.* (2009) found significant disparities in the utilisation of both outpatient and inpatient service between insured and non-insured individuals, with the former more likely to use. In Philippines, Dror *et al.* (2005) discovered significant improvement in the use of formal care among insured persons following the introduction of a CBHI scheme. They also noted that the insured members had higher hospitalization rate, professionally-attended deliveries and encounter with primary care physicians. However, Schneider and Racelis (2004) found in their study of an SHI scheme in Philippines that despite the introduction of free healthcare for insured members, there was no major improvements in the use of healthcare among low income members due to the presence of high indirect costs for accessing the covered services.

In Ghana, Mensah *et al.* (2010) examined the impact of the NHIS in relation to the use of maternal and child healthcare and discovered that insured women were relatively more likely to receive prenatal care, deliver in a hospital and experience less birth complications. A recent study by Blanchet *et al.* (2012) made similar findings and supported the idea that the NHIS promotes maternal and child health. However, Sulzbach (2008) found no significant differences in the use of antenatal care and professional deliveries between NHIS members and non-members. The evidence from Ghana also seems to suggest significant influence of socioeconomic and geographic factors on the NHIS' impact on the use of formal healthcare. A study by Sarpong *et al.* (2010) in the Asante Akim district found that NHIS members in rural areas had relatively poorer ability to use formal healthcare services compared with their urban counterparts. They attributed these disparities to the low socioeconomic status of rural residents which made it difficult to overcome other barriers of access to care.

The relatively low healthcare utilisation among low income households seems to echo the inverse care law<sup>15</sup>, and raises questions over whether health insurance alone is sufficient to overcoming inequities in access to healthcare. This thesis unravels some of the factors that

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<sup>15</sup> This suggests that the availability of healthcare vary inversely with the needs of the population served (Hart, 1971).

drive the socioeconomic and geographic disparities in the use of formal healthcare services by NHIS members in chapter 9.

### **4.3 Conclusion**

This chapter proposed a conceptual framework for assessing the impact of SHI on equity of healthcare access, which is different from the conventional approaches that are based on horizontal equity principle. The framework conceptualises access to healthcare to entail four dimensions: insurance coverage, affordability, availability and utilisation. Equity is conceived in terms of the systematic disparities in healthcare access between social groups. The key strength of the framework proposed in this thesis is that it allows for a holistic examination of key aspects of healthcare access that are directly or indirectly affected by SHI. Also, it involves less use of subjective judgement about the 'fairness' of a particular healthcare distribution as equity is evaluated based on the 'differences' in access between social groups.

In addition, it emerged that evidence on the impact of SHI on some of the access dimensions (e.g. availability of healthcare) in low income countries is thin and therefore the need for more empirical studies around those areas. The review also shows that the nature of the impact of SHI on the healthcare access of individuals and households vary according to their social, economic and geographic characteristics. Hence, this thesis focuses on variations in NHIS impact on healthcare access that are based on gender, occupational, geographical and socioeconomic status.

The next chapter outlines the methodological approach used to investigate the relationship between the NHIS and equity of access to healthcare.

## **PART III: METHODOLOGY**

### **Chapter 5: Study area and research methodology**

#### **5.0 Introduction**

The purpose of this chapter is to discuss the methodological approach of this thesis. It begins with an outline of the study area, which provides a context for discussing the research approach. This is followed by a discussion of the research design, including the research methodology and sampling technique. The next section after this examines the research process, including piloting, choice of study communities and research respondents, strategy for entry into the study sites, and data collection. The final sections discuss the analytical approach of the thesis, ethical considerations, and study limitations.

#### **5.1 Study area**

This thesis was conducted in the Tamale District of northern Ghana. The study area was chosen largely because it was socially and economically diverse and had high poverty profile which made it suitable for assessing healthcare equity based on the conceptual framework adopted for the thesis (see section 4.1). In addition, there was no known comprehensive study of the NHIS in the district at the time of the study, although it had one of the lowest NHIS coverage rate in Ghana (NHIA, 2011). Most NHIS studies were based on southern Ghana; hence, the Tamale District was chosen for this study to diversify the evidence on the NHIS. From a practical point of view, the researcher was also familiar with the Tamale District after having previously lived, schooled and worked there for about fifteen years. Such conversance was essential in facilitating data collection.

The Tamale District is one of the 20 districts in the Northern Region. It serves as the administrative and commercial capital of the Northern Region. In 2010, the district had a total population of 371,351 (Ghana Statistical Services, 2012). It is estimated that about 80 percent of the population belong to the Dagomba ethnic group, although other ethnic groups such as the Akan, Ewe and Gonja have significant presence (UNDP, 2010). The majority (84 percent) of the

population in the district is Muslim (*Ibid*). The district has both urban and rural characteristics, as it is made up of a constellation of small urban towns and village settlements. According to the 2010 Ghana population census, about 74 percent of the population in the Tamale District lived in urban areas (GSS, 2012).

Socially, Tamale District is characterised by a widespread kinship system. Despite rapid modernisation, most social life still revolves around the extended family (UNDP, 2010). Nearly three-quarters of families live with their kinsmen in multi-generational compound homes (UNDP, 2010). According to Nukunya (2003), such kinship systems facilitate reciprocal support relationships, which enable individuals to deal with personal problems collectively. Polygyny is very pervasive in the district, creating many large households. According to the 2010 population census, the average household size in the district is around six persons, which is about two persons more than the national average (GSS, 2012). It has been argued that the size of a household affects its economic situation and the ability to insure its members (Lipton and Ravallion, 1994; Basaza *et al.* 2008).

The Tamale District is a predominantly patriarchal society, resulting in greater marginalisation of women (IFAD, 2012). Owing to cultural and religious beliefs, women are accorded a lower position in social, political and economic spheres of life compared with men. In most cases the inheritance law precludes women from inheriting their husband's property, including land, which is an important economic resource in the district due to the predominance of farming. Most women also have limited access to credit due to their lack of collateral. As a result, most women are often under the control of their husband, and are mostly engaged in subsistence farming and petty trading. They are also relatively less represented in education, formal sector employment and political opportunities compared with men (*Ibid*).

Poverty is very high and widespread in the Tamale District (UNDP, 2010). The Northern Region, where the district is located, has the third highest level of poverty in Ghana, with a poverty rate<sup>16</sup> of 52 percent compared to the national average rate of 28 percent (IFAD, 2012). It is estimated that about a third of households in the district belong to the two poorest quintiles (GSS, 2008). The majority (80 percent) of residents in the district is employed in the informal sector, mainly in small-scale farming (44 percent), retail (24 percent) and manufacturing (22 percent) (*Ibid*).

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<sup>16</sup> The official upper poverty line in Ghana is GHs 371 per individual annum (Schieber *et al.*, 2012).

Unemployment is also very high, averaging around 41 percent in 2008 (DAEA, 2008). However, some studies have suggested the unemployment situation is mainly a case of underemployment rather than unemployment per se (UNDP, 2010). Also, the district has one of the lowest literacy rates in Ghana, with more than half of the population estimated to be illiterate (DAEA, 2008).

Most public facilities in the Tamale District are located in the central business district (CBD, or Tamale), and this often constrains rural residents from accessing healthcare services (*Ibid*). Although the district has a fairly good road network and public transport (UNDP, 2010), they are mainly limited to the urban areas. Some low income households are often unable to afford to use the public transport. According to the UNDP (*Ibid*), around three-quarters of the rural population in the district cannot access public transport. The majority of people also rely on bicycles and motorbikes to commute within the district. The district has good information and communication facilities including three mobile phone networks, eight local radio stations and three TV stations (*Ibid*). These facilities could be useful for effective campaign and education on health programmes, although it is unclear the extent to which residents have actual access to them.

Healthcare resources are unevenly distributed in the district, with most healthcare facilities located in the CBD. In 2010, there was a total of 41 health facilities, comprising of 52 percent public and 43 percent private (profit and non-profit) (Tamale Metropolitan Health Directorate, 2010). Only primary level facilities are sometimes available in the rural areas; all the secondary, tertiary and private facilities are based in the CBD. It is estimated that in 2010, there was around 1600 clinical and non-clinical staff in public healthcare facilities in the district (*Ibid*). However, the extent of the adequacy and access to these resources are not very clear, and chapter 8 of this thesis examines these issues.

In terms of access to healthcare, the rate of antenatal care in Tamale District is reported to have improved in recent years, particularly since 2006, to around 80 percent in 2010 (Tamale Metropolitan Health Directorate, 2010), although this still fell short of the national average of around 90 percent in 2012 (WHO, 2012). The improvement in maternal healthcare may have been influenced by the introduction of the NHIS, even though no substantial empirical research had been undertaken to ascertain this. Access to child health services in the district is very low. It is estimated that only just over half of children between the ages of 12 and 23 months in the

district had all their basic vaccination in 2008, compared with a national average of 79 percent (NDPC, 2008).

The next sections examine the methodological approach used to address the research objectives within the context of the Tamale District.

## 5.2 Study design and data collection

This section discusses and reflects on the methodology, sampling and data collection approaches used to carry out the study. The study was conducted between 2009 and 2014 while the fieldwork was undertaken between October, 2011 and January, 2012. Table 5.1 outlines the key activities on timeline presented in yearly quarters.

**Table 5.1 Study timeline**

Period (Quarterly)	2009			2010			2011				2012		2013	2014
	Q2	Q3	Q4	Q1	Q2	Q3-Q4	Q1	Q2	Q3	Q4	Q1	Q2-Q4	Q1 - Q4	Q1
<b>Activities</b>														
Registration			■											
Literature review				■	■	■	■	■	■	■	■	■	■	■
Revision of initial proposal				■	■									
Ethics application and approval (LMU and Ghana)							■	■						
Fieldwork preparation								■	■					
Fieldwork (data collection)										■	■			
Data translation and transcription										■	■			
Data analysis and interpretation										■	■	■		
Write up of thesis													■	
Thesis submission														■

### 5.2.1 Methodology

The central purpose of this study was to understand individuals' experiences with healthcare access in relation to the NHIS. Hence, one of the key criteria used in choosing a methodology was that it needed to engage directly with respondents. As a result, a qualitative approach was employed based on understanding social phenomenon from the perspectives of social actors who are affected by the phenomenon (Denzin and Lincoln, 1994). Thus, this study used mainly the experiences, perceptions and motives of individuals who had had significant experience with the NHIS and healthcare access (e.g. NHIS beneficiaries, healthcare providers, NHIS administrators etc) to understand the nature of the NHIS' impact on healthcare access.

Epistemologically, the methodological approach used in this study lies within the phenomenological paradigm. The collection of data around the NHIS' impact on healthcare access is here based on the meanings constructed by individuals involved in the NHIS. As noted by Groenewald (2004, p5), phenomenologists are concerned with "the lived experiences of the people involved, or who were involved, with the issue that is being researched." This paradigm is based on the belief that the data for understanding the NHIS' impact on healthcare access is located within the perspectives of individuals who are involved in the NHIS and therefore the need to engage with them to collect the data.

The phenomenological approach was particularly relevant to the study topic for several other reasons. Firstly, healthcare access is shaped by many 'latent' factors (LeGrand, 1982) and different individuals experience it differently based on their personal, household and community characteristics. The emphasis of the phenomenological approach on the subjective experiences of individuals allowed for such variations in healthcare access between individuals and groups to be captured in this study. Secondly, as indicated in section 3.2, the evaluation of equity in healthcare access mostly entails value judgements that are shaped by norms and values of society. Thus, by facilitating an effective engagement with the meanings that community members bring to bear on healthcare access, the phenomenological approach enabled this study to provide a culturally-based understanding of healthcare access and the NHIS. More significantly, the approach's emphasis on respondents' perspectives and interpretations allowed for cultural meanings about health insurance (and the NHIS) to be uncovered. This was particularly useful in understanding the barriers to enrolment in the NHIS (see section 6.2). Lastly, the phenomenological approach was essential in order to give voice to ordinary people

and bring their real life experiences of the NHIS and healthcare access to the fore. This is important to test normative assumptions/knowledge on the equity impact of the NHIS that are mostly produced from quantitative econometric research approaches.

In light of the phenomenological approach, a combination of research methods that engage with respondents' perspectives were employed to collect primary data for the study, principally semi-structured interview, focus group discussion (FGD) and observation (see section 5.2.6). Besides these, some secondary data (i.e. NHIS enrolment data and outpatient healthcare utilisation data) was used to triangulate the primary data and fill in data gaps. As Denzin and Lincoln (1998) have emphasised, data triangulation is critical in qualitative studies in order to gain a comprehensive understanding of the research topic due to the complexity of social phenomena. In this study, such secondary data was particularly useful in explaining patterns of enrolment in the NHIS and healthcare access.

### **5.2.2 Sampling approach**

Sampling entails the 'process of selecting units (e.g. people, organizations, communities) from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen' (Trochim, 2002, p19). The definition of equity used in this study emphasised comparing the healthcare and NHIS experiences of 'more or less advantaged' social groups. A number of key challenges emerged in trying to operationalise this equity definition from a sampling point of view. Firstly, there was the question of which social groups to compare their healthcare experiences as there was no existing empirical information on social attributes that influence healthcare access in the research area. Although existing research from other areas have identified income, geography and gender as key factors that influence healthcare access, it was not clear if these were particularly relevant to the research area.

In order to obtain locally specific social groups, a preliminary participatory wellbeing exercise was conducted in two communities in the study area to obtain information about local perceptions of: social groups/attributes that influence healthcare access; the various categories of the groups/attributes and their characteristics; and the advantaged and least advantaged category of each social group. This exercise was mainly for sampling purposes rather than for data collection. Chambers (1994) argued that participatory techniques are effective at exploring

social issues particularly among non-literate populations – which were most common in the study area. Box 5.1 provides a brief outline of how the wellbeing exercise was conducted.

### **Box 5.1 Wellbeing exercise to identify social groups in Tamale District**

In a group exercise, participants were asked to identify variables that they perceived to influence 'better' healthcare access and 'poor' healthcare access in their community. This resulted in the identification of various variables based on occupation, income/wealth, gender, and place of residence. After a long debate and consensus building (facilitated by the researcher), participants finally settled on key attributes that they considered to be key determinants of healthcare access in the Tamale District. In the next stage of the exercise, the participants were asked to identify the key categories under each attribute/group, which they did. In each set of the categories identified, they were asked to rank them in order of social advantage. After this, participants were given flip sheets and markers and asked to write or draw what they perceived to be the key features of individuals in each of the categories. Later, all the participants came together to discuss and agree on the characteristics for the group categories.

Source: Author's construct based on field data

Based on the wellbeing exercise, four social attributes were identified as having greater influence on healthcare access in Tamale District, including gender, socioeconomic, occupation, and geographic location. Among the socio-economic attribute three group categories were identified, namely (locally known as), *Bun-daamba* (well-off), *Tarimba* (middle class), and the *Fara-nima* (poor). Two occupational groups were identified: formal workers, who were perceived to be individuals who work in an office, have big business, or earn a salary; and informal workers, typically representing farmers, petty traders, agro-processors, and the unemployed. The gender groups were male and female, while rural and urban were identified as the main geographical groups. In all the attributes, women, poor, rural and informal workers were identified to be relatively least advantaged in their respective social groups. This information was used to develop selection criteria (see Appendix 7) to choose the insured and uninsured respondents for this study.

The next stage of the sampling process involved the application of the selection criteria to recruit respondents for the study. Purposive sampling technique was used to select respondents. This technique involves the deliberate selection of respondents because they

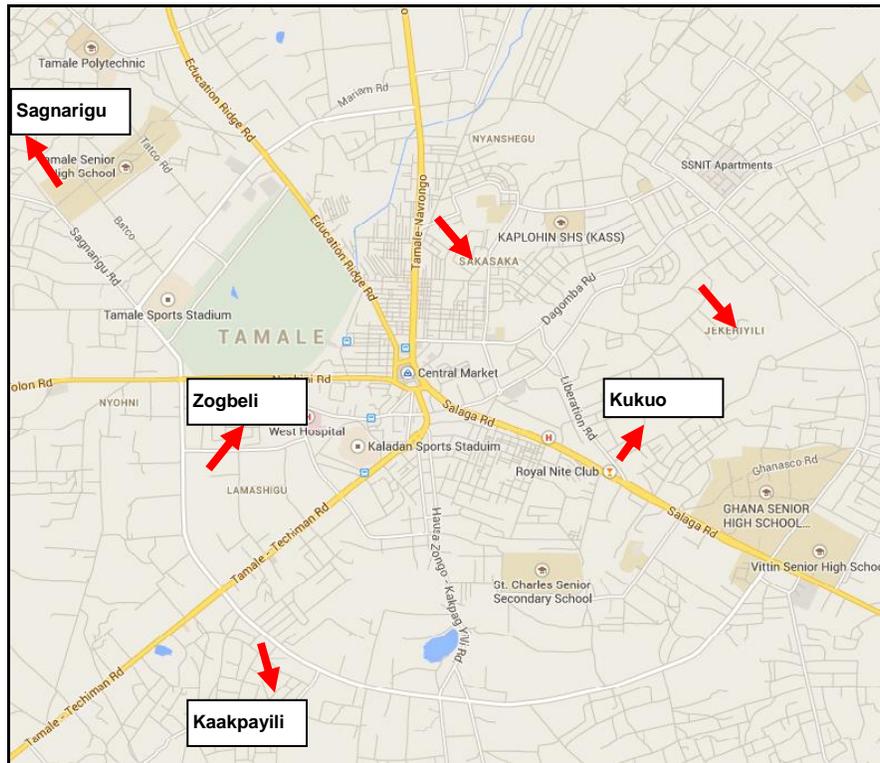
possess certain characteristics that are deemed to be useful for addressing the research issues (Patton, 1990). This sampling approach was used because the phenomenological paradigm meant that only individuals who had significant experiences with the NHIS and belong to particular social groups needed to be interviewed. Thus, the purposive sampling technique enabled such respondents to be targeted and recruited (see section 5.2.5).

In terms of sample size, a data saturation approach was used to determine how many respondents were chosen from each respondent group. Marshall (1996) contends that the appropriate sample size in a qualitative study should be decided during the fieldwork, and that the researcher must continue to recruit respondents until new themes and explanations stop emerging from new respondents. Such an approach was used to recruit a suitable number of respondents for this study.

### **5.2.3 Choosing the study communities**

As a result of the need for in-depth information on respondents to address the research questions, six communities were purposively selected from the Tamale District where insured and uninsured respondents were recruited for the study. These communities were selected based on their rural and urban characteristics and distance from the central business district (CBD) where most healthcare facilities and the DMHIS office were based ( see Figure 5.1). The selected communities included three rural and three urban. The rural communities were generally farthest from the CBD while most of the urban communities were closer to the CBD. The attributes were used because they have been noted to influence disparities in the uptake of the NHIS and use of healthcare service in other parts of Ghana (Nketiah-Amponsah, 2009, Jehu-Appiah, 2011a). The community selection was done with the aid of the Tamale Metropolitan District Profile document, which had a list of all communities in the district and their key features. In order to diversify the respondents' data, the study communities were selected from different geographical locations in the district. The names of the selected communities and their geographic characteristics are listed in Table 5.2.

**Figure 5.1 Map of Tamale District showing study communities**



Source: Adapted from Google (2014)

The rural communities appeared to have relatively more informal sector workers and mainly engaged in agricultural activities for their livelihood. Also, most community members lived in inter-generational compound homes and tended to support one another during social events such as funeral, child naming ceremony, and marriage. On the other hand, the urban communities appeared to have relatively more affluent and formal sector workers. Most people in the urban communities also lived in multi-generational family houses, although there were also many nuclear family units that lived in rented rooms which they shared with other tenants. The urban communities were largely cosmopolitan with a large number of formal sector workers.

**Table 5.2 List of study communities and their geographic characteristics**

<b>Community</b>	<b>Rural/urban</b>	<b>Distance from CBD (km)</b>	<b>Geographical location in the district</b>
Sakasaka	Urban	1.5	North
Zogbeli	Urban	1.7	West
Kukuo	Urban	2.1	East
Sagnarigu	Rural	7.5	North-west
Jekeryilli	Rural	6.9	East
Kaakpayilli	Rural	6.1	South

Source: Author's construct based on field data and Tamale Metropolitan Assembly (2010)

#### **5.2.4 Field entry**

The first week of the field trip was spent preparing the ground for the data collection. First, a visit was made to the NHIS and the Ghana Health Services (GHS) headquarters in Accra (the national capital) to obtain approval for the study. Initially, it was difficult to gain approval from the NHIA as some officials appeared to be suspicious about the purpose of the study. This was probably due to the fact that the field trip coincided with a time when several CSOs, including some that were based in the UK, were critical of the NHIS. Given that the researcher was studying in the UK, it was feared that he might collect information for such CSOs. However, after several attempts of persuasion aided by ethical approval letters from the London Metropolitan University (LMU) and a local research institution (Noguchi Memorial Institute for Medical Research), an approval for the study was finally granted by the NHIA.

At the community level, the use of gatekeepers such as Assemblymen<sup>17</sup> and NHIS community enrolment officers was instrumental in gaining initial entry study communities. These gatekeepers, particularly the Assemblymen, wielded considerable power and trust in the communities and associating with them provided greater legitimacy and trust for the study by community members. During initial contact with the gatekeepers when permission was sought, they asked questions to validate the researcher's identity. The purpose of such identity checks, as it later turned out, was to find an appropriate way of presenting the researcher to community

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<sup>17</sup> This is an opinion leader who represents the community in the district parliament.

members (both potential and actual respondents). The researcher's identity as a Muslim and a Dagomba (the major religion and ethnic group in the district) earned him the identity of an 'insider' by the community members, and was locally referred to him as 'Ti bia' (meaning, our son). On field visits, the gatekeeper introduced the researcher to potential respondents as: 'ti bii mbogo maa ka oyi tuure na ne oti bohaya bohasi kasabi buku' (meaning: 'this is our son who has come back from abroad to ask you a few questions in order to write a book'). Such introduction earned the researcher a warm reception from community members.

The local connection proved to be both a facilitator and a hindrance to data collection from respondents. Some respondents were ambivalent over whether to trust the researcher with their personal information. As a result, some individuals refused to participate in the research even after they were assured of confidentiality. In most cases it appeared some insured and uninsured respondents participated in the study not because they were unconcerned about privacy, but because they wanted to help their 'son' (the researcher). The concern over personal information was very pervasive particularly among rural respondents, which was initially surprising because issues around healthcare access would not normally be regarded as 'sensitive' in most places. Such behaviours appeared understandable later in light of the homogeneous nature of the communities which fostered close inter personal relationship among people. Beyond facilitating access to data, the cultural connection enabled the researcher to empathise and engage more effectively with the experiences of the respondents.

During contact with respondents facilitated by the NHIS community enrolment officers, the researcher emphasised his identity as a student and an independent researcher and the fact that he did not work for the NHIA. This was important because the researcher's association with the enrolment officers was initially perceived by some respondents as having professional relationship with the NHIA (and therefore an 'outsider'), which affected the openness and frankness of their responses, particularly in regards to complaints about the NHIS.

Through the course of the fieldwork, the researcher lived in the CBD in Tamale and commuted to the study sites with a motor-bike or a bicycle (borrowed from a family member) so that the DMHIS office, the study communities, and the healthcare facilities could easily be assessed. Using the motorbike and bicycle (rather than a car) was particularly useful because it reinforced the researcher's identity as an insider as those were the most common forms of transport in the

district. Also there were many homes within the community that could not be accessed by car due to poor roads.

### **5.2.5 Choosing the respondents**

The study respondents were purposively drawn from four population groups: insured, uninsured, healthcare providers, and NHIS administrators. These were deemed to have had experience with the NHIS and healthcare, hence, their perspectives useful for gaining deeper understanding of the equity impact of the NHIS on healthcare access.

#### ***Insured and uninsured respondents***

These respondents were purposively selected from the various social groups: gender, geographic location, occupation, and socioeconomic status. To recruit respondents, individuals were initially conveniently selected from the study communities. This was followed by an identification of their occupation, gender, geographical residence and socioeconomic status (using the selection criteria – see appendix Appendix 7) as well as their NHIS status. The identification process was useful in ensuring that an adequate number of respondents were selected for each category of the social groups. Respondents were mostly recruited from their homes, NHIS registration centres, and healthcare facilities. The home recruitments were mostly carried out in the evenings to minimise the risk of recruiting only unemployed members of the household. A total of 65 insured and uninsured respondents were selected for the interviews and 27 for the FGDs. Table 5.3 provides a detailed breakdown of the insured and uninsured respondents that participated in the study.

A similar recruitment process was used to select respondents for the non-participant observation, except that all the participants were recruited from two healthcare facilities (i.e. Tamale Teaching Hospital and Newlife Hospital). In addition, prospective participants needed to be seeking outpatient care for the first time in the facility in order to be selected. This ensured that the entire healthcare seeking process of participants in the facility was captured. A total of 40 insured and uninsured patients, representing the various socio-economic, gender and geographic group categories were selected for the non-participant observation (see Table 5.3)

**Table 5.3 Number of respondents for the interview, FGD and non-participant observation**

	Interview		FDG		Observation	
	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>	<u>No.</u>	<u>%</u>
<b><u>NHIS status</u></b>						
Insured	31	48	11	41	17	43
Uninsured	34	52	16	59	23	58
Total	65	100	27	100	40	100
<b><u>Socioeconomic status</u></b>						
Well-off	15	23	5	19	10	25
Middle	19	29	10	37	15	36
Poor	31	48	12	44	15	36
Total	65	100	27	100	40	100
<b><u>Occupation</u></b>						
Formal	24	37	11	41	15	38
Informal	41	63	16	59	25	63
Total	65	100	27	100	40	100
<b><u>Gender</u></b>						
Male	29	45	15	56	17	43
Female	36	55	12	44	23	58
Total	65	100	27	100	40	100
<b><u>Place of residence</u></b>						
Urban	35	54	12	56	24	60
Rural	30	46	15	44	16	40
Total	65	100	27	100	40	100

Source: Author's construct based on field data.

### ***Healthcare providers and staff***

Healthcare providers were also purposively selected from the Tamale District for the study. The rationale for choosing this cohort of respondents was to understand how the NHIS impacted on the availability and quality of healthcare. Hence, one of the key criteria for selecting the providers was that they needed to be accredited by the NHIS and providing outpatient services to NHIS members. To do the selection, a list of accredited providers in the district was obtained from the DMHIS office; then, five facilities were purposively selected based on their ownership type (private, public and mission) and level of care provided (primary, secondary, and tertiary).

The different types of providers were used in order to ascertain if the characteristics of the provider had influence on the extent to which the NHIS impacted on it. Table 5.4 provides a breakdown of providers that were selected for the study.

**Table 5.4 Healthcare providers and staff respondents for the study**

<b><u>Level of care</u></b>	<b><u>No.</u></b>	<b><u>Clinical staff</u></b>	<b><u>No.</u></b>
Tertiary	1	Nurse	13
Secondary	2	Doctor	7
Primary	2		
<b>Total</b>	<b>5</b>	<b>Total</b>	<b>20</b>
<b><u>Ownership of facility</u></b>	<b><u>No.</u></b>	<b><u>Non-clinical staff</u></b>	<b><u>No.</u></b>
Public	3	Administrators	8
Mission	1	Accountant	2
Private	1	M.superintendent	1
<b>Total</b>	<b>5</b>	<b>Total</b>	<b>11</b>

Source: Author's construct based on field data

In each facility, two categories of respondents were selected from the chosen: clinical staff and non-clinical staff. The clinical staff respondents were mainly nurses and doctors while the non-clinical staff included hospital administrators, medical superintendent, and accountants. The non-clinical staff respondents were purposively selected based on their areas of expertise and whether they could provide the kind of information that was required. Also, the clinical staff respondents were purposively selected based on their role in the facility (doctor or nurse). A total of 31 clinical and non-clinical respondents were interviewed (see Table 5.4).

***NHIA staff***

Staff respondents were drawn from the DMHIS and the NHIS regional offices for interview on key design and implementation aspects of the NHIS. These were purposively selected based on their knowledge around specific design and implementation issues that information was needed. A total of two regional and six district NHIA staffs were selected.

## 5.2.6 Testing the topic guides

Five pilot interviews and one FGD were conducted in the study communities in the second week of the fieldwork to test the interview guides. These included one interview each for insured respondent, uninsured respondent, hospital administrator, clinical staff, and NHIA staff. Respondents for these pilots were randomly selected from the respective respondent groups. No timescale was set for the pilot interviews as one of the key objectives was to test the length of the interviews. It emerged from the pilot that the insured and uninsured interviews were too long (It initially took 3 hours) due to repetitions, and this affected the depth at which respondents could be engaged with on the research issues. Also, it was realised that respondents' level of engagement in the interview process reduced after an hour; hence the interview guides were revised to fit it within an hour. Much of the revision involved eliminating questions that elicited similar responses.

Another important realisation from the pilot was the difficulty in translating certain concepts and words from English into the local languages that were used for the interviews (Dagbani, Twi, and Hausa). Some of this was because the researcher had been away from the study area for about five years. Also, there were several key words/concepts such as 'insurance', 'risk pooling', and 'equity' which did not have precise equivalent in the local languages. The pilot interviews allowed for these words to be identified and a community registration officer was contacted to help find suitable phrases and sentences in the local languages to describe them. The pilots also enabled the researcher to practice the interviews in the local languages and sharpen his local language skills.

The FGD pilot revealed that the gender composition of discussion groups does not significantly hamper effective group discussion on the NHIS and healthcare access. Krueger and Casey (2000) have argued that in mixed sex discussion groups men are likely to dominate the discussion which would limited the participation of females members in the group (the so called *peacock effect*). During the FGD pilot, both male and female were mixed to see if it was necessary to separate them in the actual FGDs. However, it emerged that the level of participation from both sexes were similar. This lesson was applied in the design of the actual FGDs in which both males and females were mixed in the same group.

### **5.3 Data collection**

A range of methods were used to collect primary and secondary of data for this thesis. These included: review of secondary information, semi-structured interview, FDG, and observation. The field data was collected between October, 2011 and January, 2012. This period coincide with the dry season, which was the time when most farmers were free to engage in a research. As a result, participation in the interviews and FGD by insured and uninsured respondents was very high. All the field data was collected by the researcher, which was essential in ensuring consistency in the interpretation of the data and also in providing an opportunity for the researcher to engage with the respondents in order to gain a first-hand experience of the issues that were being researched. No Research Assistants were used in this study; however, support was received from Assemblymen and community enrolment officers, who facilitated access to respondents and data collection. Also, the researcher received support from a local academic social scientist (Dr. Adobea Owusu) on the design and implementation of the fieldwork. Dr. Owusu was affiliated to the Institute of Statistical, Social and Economic Research (ISSER) of the University of Ghana and had conducted extensive qualitative research on the NHIS and other micro-health insurance schemes in Africa. Her advice was instrumental in addressing some of the challenges that emerged from the fieldwork.

#### ***Review of secondary data/information***

An extensive literature review was conducted around the study topic prior to the primary data collection. This review enabled the researcher to strengthen his understanding of key debates around the study issues and to locate the thesis within the broader SHI and healthcare access debate. The reviewed literature was sought from notable social science citation databases, including Pubmed, Institute for Scientific Information (ISI), Sciencedirect, and Willey online library. The keywords that were used for the search included: 'social health insurance'; 'access to healthcare'; 'health insurance in developing countries' and 'equity in healthcare'. In addition, the websites of the WHO, WB, International Labour Organisation (ILO) and USAID were searched to obtain relevant literature on the study topic. Also, library catalogues of the London Metropolitan University and the British library were searched for non-electronic literature on the subject. These searches were conducted in the beginning of 2010, and repeated after every six months to ensure that newer literature could be captured.

The search produced a wide range of both theoretical and empirical literature. The empirical literature was sorted and narrowed down to those that pertained to developing countries. A key challenge in this exercise was the dearth of SHI literature on Africa, as most insurance schemes in that region were mainly CBHI. However, given that CBHI and SHI are conceptually similar in many respects, CBHI literature was used in cases where they were considered to be relevant.

In addition to the conventional literature, a number of key documents/data were obtained from relevant organisations during the fieldwork whose information was used to triangulate the primary data. These included: NHIS enrolment data, hospital attendance data; and annual reports from the NHIA, Tamale Metropolitan Health Directorate, and various healthcare providers.

### ***Semi-structured Interviews***

Semi-structured interviews were conducted to collect individual views, understandings, experiences and meanings on the NHIS and healthcare access. Owing to the explorative nature of the phenomenological approach adopted for this study, it was deemed necessary to interact with individuals who had had experience of the NHIS in order to gain deeper insights into the NHIS impact on healthcare access. This was particularly so given that the researcher had been away in abroad in most years since the NHIS was introduced and therefore needed such interaction to understand it better. Four categories of respondents were interviewed: insured persons, uninsured persons, NHIA staff, and hospital staff.

The purpose of the interview with insured and uninsured respondents was to understand their experiences on the NHIS as they are the primary target group of the scheme. Although most uninsured respondents were not directly affected by the NHIS, it was deemed essential to examine their experience in order to understand the constraints to enrolling in the NHIS and in accessing healthcare without health insurance. The interviews were conducted in a place and time that were convenient to the respondent. In most cases, these took place in the respondent's home, market place, NHIS registration centre, and hospitals.

The insured and uninsured interviews often started with close-ended questions, which were used to collect basic biographic and socioeconomic information about the respondents. This was followed by more elaborate, open-ended questions. The open-ended questions were developed around key themes of the research objectives such as acquisition of insurance

membership and healthcare access (before, during, and after hospital visit). These questions enabled respondents to express their views on the study issues more deeply, and also allowed the researcher to probe relevant areas of the research issues for in-depth information. All the interviews were conducted by the researcher in either a local language (Dagbani, Twi, or Hausa) or English. Each of the insured and uninsured interviews lasted for an average of 90 minutes. During the interviews, the researcher took notes and recorded the proceedings on a digital voice recorder.

The essence of the interviews with the facility staff was to ascertain how the NHIS impacted on the availability and quality of healthcare services. It was also to understand the supply-side constraints and opportunities that affected healthcare provision within the context of the NHIS. Most of these interviews were conducted within the facility premises so that the staff respondents could access information from their computers or achieved files for the researcher. The interview questions for the non-clinical staff were structured around operational issues on healthcare service provision in relation to the NHIS. These interviews lasted for an average of one hour. In most cases, the researcher used the interview sessions as an opportunity to ask for important documents such as annual report and to clarify unclear healthcare related issues that came up in the interview with the insured and uninsured respondents. The interview with clinical staff was mainly around the effects of the NHIS on health workers' motivation and relationship with patients. These interviews lasted for an average of 30 minutes. All the facility staff interviews were conducted in English as it was the official working language.

Lastly, as administrators of the NHIS, interviews with the DMHIS and regional NHIA staff were thought to be necessary to understand supply-side constraints and opportunities that affected NHIS membership coverage as well as the nature and rationale for the NHIS' design features. The length of the interview sessions with the NHIA staff respondents was about one hour. The interviews were all conducted in English and recorded on a voice recorder.

### ***Focus group discussions***

Focus group discussion 'involves engaging a small number of people in an informal group discussion (or discussions), 'focused' around a particular topic or set of issues' (Wilkinson, 2004, p. 177). FGD provides a conducive environment for participants to openly discuss their views and perceptions on a particular issue in greater depth (Krueger and Casey, 2000). Thus, FGD was used as a complementary data collection tool to enable insured and uninsured

participants to debate on key issues around the research questions, particularly on issues that emerged from the individual interviews and needed further exploration.

A total of four FGDs were conducted in two rural communities (i.e. Kaakpayilli and Sagnarigu) and two urban communities (i.e. Zogbeli, and Kukuuo) in the Tamale District. In organising the FGDs, the discussion groups were first constituted through the help of key informants (mostly the Assemblymen). The groups were formed bearing in mind Frey and Fontana's (1991) advice that group diversity generates interpersonal conflicts and stifles effective discussion. Each FGD group was constituted with individuals who shared similar characteristics in some respect. The groups included: rural insured participants, rural uninsured participants, urban insured participants, and urban uninsured participants. Each group had between six and eight participants, and was made up of a mixture of males and females as well as individuals from different socioeconomic backgrounds. The mixture of the two sexes in the discussion groups was informed by an observation during the pilot of a lack of *peacock effect* in discussion on NHIS and healthcare issues in the Tamale District. Thus, participants in each discussion group shared a common identity based on either their insurance membership status or geographical residence and also differed in terms of their socioeconomic status and gender. The combination of such homogeneous and heterogeneous elements in the same discussion group ensured that participants were able to freely express their views and participate actively and at the same time allowed for diverse views which stimulated the discussion process.

The FGD sessions were conducted in a classroom on weekend so that participants could have a neutral place to freely express their views. The actual session involved participants engaging in an informal discussion around key thematic issues, including constraints on enrolling in the NHIS and accessing healthcare in the community. All the sessions were conducted in Dagbani as it was the main language all the participants (although belonged to different tribes) understood. Each FGD session lasted for around one-and-half hours. Also, all the sessions were facilitated by the researcher which allowed for a first-hand observation of how meanings around equity and access to healthcare were constructed. It also enabled him to manage the discussion in order to generate the needed information for the study. The discussions were loosely guided by a topic guide and the proceedings were voice recorded and transcribed later by the researcher.

Participation in the discussions was very high. Contrary to Krueger and Casey's (2000) warning over the possibility of a peacock effect in mixed FGD groups, the female participants were very opinionated and out-spoken on the issues that were discussed, which was partly because they were more engaged with healthcare issues due to their role in the household as carers. This suggests that the nature of the topic is an important determinant of the level of participation among FGDs participants.

Apart from contributing diverse and detailed insights on the research topics, the FGD allowed for perceptions and ideas around healthcare access to be expressed, shared and challenged in a way that the semi-structure interviews could not facilitate. It also allowed participants to exhaustively explore the nuances of key issues on the research topic. In addition, the FGDs were used to verify some of the individual interview data and test for data saturation. Issues or themes that initially appeared to be unclear or contentious in the individual interviews were mostly introduced in FGD sessions to observe participants' responses. This often resulted in greater clarity on the issues.

### ***Observation***

Observation was conducted to collect data for the study. This method was not originally part of the research design, but was found to be necessary in order to obtain data on patient waiting times and also to gain a first-hand experience of the administrative procedures involved in processing NHIS membership and claims. Dewalt and Dewalt (2002) have noted that observation is often needed in qualitative research to enable the researcher develop a holistic and accurate understanding of the study issues due to the limitations of semi-structure interviews.

Two types of observation were conducted: participant observation and non-participant. The aim of the participant observation was to explore and understand the administrative nuances of the NHIS. To do this, three observation sessions were conducted, involving one in the Tamale DMHIS office and one each in Tamale Teaching Hospital and Tamale Central Hospital. These organisations were purposively selected based on their availability and willingness to participate in the observation. Each session lasted for about two hours and involved observing membership registration, membership renewal, complaints handling and claims processing. In some sessions, the researcher was given the chance to try his hands on these activities under the supervision of a team leader. Notes were taken during the sessions, and team leaders were

asked questions for clarification on the processes. This enabled the researcher to gain a firsthand experience of NHIS procedures and to understand and engage with the issues that members and administrators articulated during the individual interviews. Most of the data collected fed into the discussion around the constraints to the NHIS and the financial contribution of the NHIS to healthcare providers.

The non-participant observation was conducted to collect data on the waiting times of patients in order to understand how the NHIS may have affected these. This approach was necessary because there was no secondary information on patients waiting times in the facilities that were sampled for the study nor were there existing systems in the facilities to collect such data. The collection of the data involved tracking patients and recording the time spent at each stage of the healthcare seeking process in the facility. It was not possible to use self-administered questionnaire because most patients were illiterate and could not fill in the questionnaires by themselves. Also, some were often too ill to fill in the form by themselves. The other challenge posed by the data collection was how to collect the data without interfering with the healthcare seeking process of the patients, including the confidentiality of patients' medical information. Thus, non-participant observation was found to be most appropriate in light of these constraints.

In conducting the non-participant observations, OPD patients were purposively selected (see section 5.2.5) and their consent, biographic and socioeconomic information were obtained. They were followed around the facility to record the times they spent at various stages of the healthcare seeking process on a waiting time record sheets. The researcher maintained a reasonable distance (about 50 metres) from the patients during the observation for confidentiality reasons (due to medical records) and also to prevent the risk of influencing the behaviour of both the patient and health workers (i.e. the Hawthorne effect). In cases where the observed patient was accompanied by a family member or a friend who is educated, they were given the waiting time record sheet to record the times so that the researcher does not have to follow them. This observation was very time-consuming and as a result only 40 could be conducted. The data from this observation was used to inform the discussion on the effects of the NHIS on the quality of healthcare services (see section 8.2).

## 5.4 Data preparation

The interview and focus group data were recorded on a digital audio in the original language of respondents. This meant that most of the data collected from the insured and uninsured respondents were mostly in the local languages and therefore needed to be translated into English. The transcription of the interview and FGD data was done while still in the field, which enabled the researcher to check the transcripts for errors and corrections. Both the transcription and translation of the data were done simultaneously by the researcher, without the use of professionals. This was useful because it enabled the researcher (who also conducted the FGD and interviews) to refer to the respondents' context and interpret their responses appropriately. Also, because the interview, translation and transcriptions were conducted by the same person (the researcher), there was hopefully greater consistency in interpreting the data. There were cases where respondents used culturally specific words/concepts that were difficult to translate into English. Where such words/concepts were identified during the interview further clarifications were immediately sought from the respondent which often led to the use of several words to convey the meaning of the word/concept. Other times such words/concepts were identified during the transcription and therefore assistance was sought from a third party (mostly, the community enrolment officer) to translate them. The drawback to this is that it partly affected the objective of the study methodology in giving voice to the respondents and representing their experiences, perceptions and meanings in original format.

The interview and focus group transcripts were translated and transcribed verbatim. This produced a total of 104 transcripts, with an average of about 1500 words per transcript. These transcripts were then exported into Nvivo (version 9) and analysed. Similarly, all the quantitative data obtained from the non-participant observation was checked for gaps and errors while still in the field and corrected accordingly. The data was then transferred manually into Excel for analysis.

All the data (including electronic secondary data) were backed-up and stored on a password protected external hard drive. The data recording sheets that were used for the observation and semi-structured interviews were shredded after the information on them were copied into a computer due to confidentiality reasons.

## 5.5 Data analysis

The interview, focus group and participant observation data were analysed based on thematic network approach (Attride-Stirling, 2001). This approach entails systematically pinpointing, examining, and recording patterns within data to identify relevant themes and representing them in a web-like network (Attride-Stirling, 2001). This approach is useful because it allows explicit statement of respondents to be interrogated to uncover the meanings they bring to bear on a particular social issue and also identify salient themes (Skovdal, 2009). The approach involves systematically extracting three levels of themes: basic themes, organizing themes, and global themes<sup>18</sup>. The basic themes are simple ideas from the text which on their own make little sense unless they are grouped with similar other ideas. When similar basic themes are clustered into a meaningful idea or assumption they become an organizing theme. A group of similar organising themes cluster to form a global theme (Attride-Stirling, 2001). By using the web-like map, the approach allows for effective organization and connection of ideas around a particular theme. The approach provided the framework for the data analysis, which was conducted with the help of Nvivo.

To analyse the data, all the transcripts were first skimmed through to get a sense of their content. This initial process revealed some preliminary themes which were used to develop a coding framework for the analysis. The transcripts were then imported into Nvivo and each carefully read, coded and tagged to an appropriate folder (i.e. code nodes). Each code node was analysed to identify emerging themes, which became the 'basic themes'. The generation of the basic themes was shaped by the research questions, but there were also some new ones that had not been thought of in the research design. Several basic themes were then recoded into bigger themes based on similarities of the ideas they articulated. This process led to the generation of the 'organising themes'. In the last stage of the coding, the organising themes were clustered into overarching 'global themes'. There were four main global themes generated namely: insurance membership coverage, affordability of healthcare, availability and quality of healthcare, and utilisation of healthcare services. The discussion chapters of this thesis were

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<sup>18</sup> The basic themes are simple ideas from the text which on their own make little sense unless they are grouped with similar other ideas. When similar basic themes are clustered into a meaningful idea or assumption they become an organizing theme. A group of similar organising themes cluster to form a global theme (Attride-Stirling, 2001).

structured along the lines of the global themes. The organising themes provided the building blocks for articulating and reinforcing the relevant global themes, while the basic themes provided explanatory ideas and evidences to firm up the arguments in each of the organising themes.

An important part of this study involved understanding the disparities in people's experiences of the NHIS and healthcare. Therefore, at each stage of the coding the views of respondents from different social groups were compared to identify patterns of similarities and differences. One of the key challenges faced during the data analysis was the huge volume of diverse data that was generated from the data collection. As a result of the diversity of methods used, a range of different data was produced which made it difficult to merge. This was particularly the case given that most of the interviews were not structured and therefore did not fall into separate categories. In view of this, the data analysis process mostly involved the researcher scrupulously sifting through each transcript, identifying key themes, and coding similar themes to one another. There was also the issue of whether the focus group data should be treated as a group data or an individual one. However, they were considered as individual data, while taking into account the participant's group identity such as gender, NHIS status, and geographical location.

The quantitative data consisted of NHIS enrolment data, facility attendance data, and the non-participant observation data. These data were transferred into Excel and various analyses such as percentages, mean and ratios were conducted to unearth relevant patterns. The information was compared with the themes from the qualitative data which often opened up several leads for further analysis. In some cases they were used to complement the qualitative data, while in others they were used on their own to address particular research questions.

## **5.6 Ethical considerations**

Research ethics pertains to the researchers' responsibilities towards the research subjects, including things that should or should not be done to the research subjects (Marvasti, 2004). The aim of ethics is to minimise the risks and harm of the research to both the respondent and the researcher. According to Silverman (2011), qualitative researchers are prone to a range of ethical problems including exploitation, deception, participating in dubious bargains, researching

vulnerable people, and revealing peoples identities. This study was conducted mindful of these ethical pitfalls and measures taken to minimise their occurrence. To do this, a number of ethical safeguards were employed, including ethical clearance, informed consent and confidentiality.

The fieldwork was preceded by the researcher obtaining ethical approval from the Ethics Committee of the Faculty of Social Sciences and Humanities at LMU and the Noguchi Memorial Institute for Medical Research (NMIMR) at the University of Ghana (see Appendix 8 and 9 for a copy of ethical approval letters). In addition, a study approval was obtained from the Ghana Health service (GHS) and the NHIA. These ensured that potential ethical issues were addressed by the researcher before the study was conducted.

In addition, the consent of each respondent was sought before they took part in the study. Respondents' consent was given in the form of a signature or a thumb-print on two copies of the consent form (an example of this can be found in the Appendix 1), one of which was kept by the respondent. The thumb-print option was added for non-literate respondents who could not sign a signature. Initially, the researcher was hesitant in using thumb-prints due to their potential to compromise respondent's personal data. However, the NMIMR found no significant risks associated with its use, and actually asked for it to be included for the non-literate respondents. To ensure that respondents understood the consent, the consent instructions were read out to each respondent and verbally translated into the relevant local language by the researcher. Respondents were given an opportunity to ask questions, and as these questions were answered they were provided with sufficient information to make decisions about whether to participate in the study or not. Respondents were also given the right to withdraw from the study if they were not happy.

As a way of safeguarding the confidentiality of respondents' data, their names were replaced with pseudonyms (in the form of codes). Silverman (2011) has suggested the need for researchers to protect the identity of research respondents even if the issues that are being dealt with are not particularly delicate or intimate. Thus, through the use of pseudonyms the identity of the respondents was protected. Also, all respondents' data were saved on a password protected external hard drive and the hard copies were shredded.

### **5.6.1 Ethical issues**

One of the ethical challenges faced during the fieldwork was the expectation by some respondents that they be given financial rewards for participating in the study. This expectation often influenced some respondents' decision to participate in the interviews and, possibly, their response during the interview. Some respondents often begged the researcher to help them (financially) enrol in the NHIS, and were often disappointed when the researcher declined. The tendency for respondents to expect financial rewards from researchers was a common practice in the Tamale District. This was partly due to the huge presence of non-governmental organisations (NGO) in the district, which usually paid individuals for taking part in workshops and research. Although the researcher explained that he was a student, many respondents could not understand the difference between a student researcher and an 'NGO researcher'. This problem was mostly tackled by the researcher explaining clearly to the respondents about the purpose and conditions of the study before the interviews and FGD actually started. Also, it was made explicitly clear in the consent form that no direct financial incentives would be paid to respondents.

Secondly, the nature of the thesis required information from respondents who had used NHIS healthcare before or were in the process of seeking healthcare in a facility. This made healthcare facilities suitable places for recruiting such respondents. However, people who visited facilities were mostly patients who were often too ill to effectively engage in an interview. As a result, respondents were encouraged not to participate or withdraw from the study if they felt they were not well enough to continue a particular interview. But it appeared some respondents often found it hard to turn away the researcher even when they were too ill. Consequently, the researcher usually targeted OPD patients (who were often not too ill) who were well enough to be interviewed. Also, whenever it was realised that a respondent was too ill during an interview session, the interview was immediately terminated and rescheduled for another date.

### **5.7 Study limitation and challenges**

One of the limitations of the study was the possibility that some respondents may have identified themselves into the wrong socioeconomic group. This is because respondents' socioeconomic

status was identified based on their own subjective opinion. Although the information provided by the respondents was often compared with the selection criteria to identify the right socioeconomic group, it was possible that some respondents may have provided inaccurate information about their socioeconomic status. This is especially so because high income earners were supposed to pay higher premium under the NHIS, therefore, some high income respondents may have perceived the interview as a way of identifying them to pay a higher premium. Also, some middle income individuals may have described themselves as poor in anticipation that they could be exempted from premium payment (under premium exemption for indigents). In addition, some poor respondents may have been unwilling to identify themselves as poor due to the stigma associated with poverty. This may have affected the socioeconomic data.

Another important challenge faced during in this thesis was the lack of sufficient facility-based data on key areas of the research objective. Many of the facilities did not have complete data on patient attendance, especially for the pre-NHIS period. This data was needed in order to compare the healthcare seeking behaviour of individuals in the pre and post NHIS periods. Due to the lack of such baseline data no attribution could be made on the impact of the NHIS on healthcare access. Certain key data such as patient waiting times which were needed to address certain aspects of the research objectives were not available in the facilities. In this case, the non-participant observation was used to address the data limitations. However, the sample size was rather quite small (40 participants) due to the resource constraints of the study.

Another data related challenge was the limitation of the NHIS enrolment data. Information on the social and economic background of insured NHIS members was needed to strengthen the analysis on the equity of NHIS coverage. However, the NHIA did not have much background information about insured members. Hence, information on the socioeconomic status of the respondents was used to deal with this limitation.

## **5.8 Reliability and validity of the study**

Reliability and validity are essential aspects of research that ensure the trustworthiness, rigour and quality of the study (Golafshani, 2003). Validity refers to the extent to which the results of a particular study are truthful, while reliability is about the extent to which the results can be

replicated under a similar methodology (Joppe, 2000). Although some researchers have argued that validity and reliability should be reserved only for positivist research (Watling, as cited in Winter, 2000), Patton (2001) suggests that they should be given particular attention in qualitative research too. The phenomenological approach of this study makes it difficult to assure the reliability (i.e. replication) of the study findings. This is partly because the study was based mainly on the subjective meanings of respondents, which are socially constructed and therefore constantly change according to time and context (Crotty, 1998). Therefore, while the research design of this study can be replicated in other studies, it cannot be guaranteed that they will yield the same findings everywhere.

However, several measures were taken throughout the research design, data collection and analysis to strengthen the validity and reliability of the study. First, the purposive sampling approach used in this study allowed for the collection of data from individuals who possessed typical characteristics of the interested group. This ensured that the sample data was close to a representative one. Cornish (2004) argued that purposive sampling generates typical case examples which allow the researcher to obtain data that is close to survey type representative sample.

Second, a multi-method approach, involving the use of a combination of interviews, observations and FGDs, was employed in this study which ensured the triangulation of data from different sources. The FGDs, which were conducted in the latter part of the field work, were used to verify key themes that emerged from the individual interviews. The open discussion of the FGDs allowed for all aspects of the emerging themes to be explored. By so doing, it was possible to validate the trustworthiness of particular views and also capture different aspects and realities of the research topic.

In addition, all the data for the study was collected by the researcher. The researcher's engagement with the respondents during the interviews allowed for the use of local knowledge to critically interrogate the responses of respondents in order to verify their authenticity. This approach was applied particularly to responses that did not make 'logical' sense. There were cases where the issue could not be ascertained conclusively even after such interrogation, while in other times, the perceptions of a respondent on a particular issue were 'wrong' due to misinformation. Such issues were often taken further and verified with relevant organisations such as healthcare providers or NHIS administrators.

Lastly, in discussing the key themes that emerged from the study, verbatim quotations (i.e. literal statements of participants) were used to support them. This ensured that the original meanings of respondents on particular issues were adequately reflected so that readers could interpret them by themselves in addition to the interpretations provided by the researcher. Also, all the interview and FGD data was recorded objectively and comprehensibly, including the use of audiotapes which ensured that all the details of the conversations with respondents were effectively captured.

## **5.9 Conclusion**

This chapter has outlined the key features of the study area (Tamale District), and argued that it was chosen primarily as a result of its diverse social, economic and geographic characteristics as well as high poverty profile. It showed that qualitative research approach (e.g. semi-structured interviews, FGDs and observation) and phenomenological paradigm are essential for the study due to the nature of the study topic – equity of access to healthcare – which required the researcher to engage with the experiences of individuals who had been affected by the NHIS. In addition, this chapter demonstrated how a well-being exercise was used to determine relevant social groups for the equity analysis of this study. These included socioeconomic groups (poor, middle class and well-off), gender groups (male and female) occupational groups (formal sector workers and informal sector workers) and geographic groups (rural residents and urban residents). Lastly, the chapter showed how purposive sampling was used to select a range of different respondents (i.e. insured members, uninsured individuals, healthcare providers and NHIS administrators) for the study and how thematic network approach was used to analyse the qualitative data.

## **PART IV: FINDINGS AND DISCUSSION**

### **Chapter 6: Coverage of the NHIS in Tamale District**

#### **6.0 Introduction**

One of the fundamental aims of the NHIS is to promote equity of access to healthcare by enabling individuals to obtain health insurance. The NHIS is theoretically based on the principle of mandatory enrolment, which means that in principle everyone in Ghana should be enrolled in the NHIS. However, only a third of Ghana's population was covered by the NHIS in 2011 (NHIA, 2011), which means that the majority of the population are uninsured by the NHIS. The aim of this chapter is to examine the extent to which the NHIS has facilitated equity of health insurance coverage, using the Tamale DMHIS as a case example.

The chapter is structured as follows. The next section examines the NHIS enrolment pattern in the Tamale District. This is followed by a discussion of factors that shape NHIS enrolment. The chapter concludes with an examination of the equity implications of the patterns of enrolment in the NHIS in Tamale District.

#### **6.1 The pattern of NHIS enrolment in Tamale District**

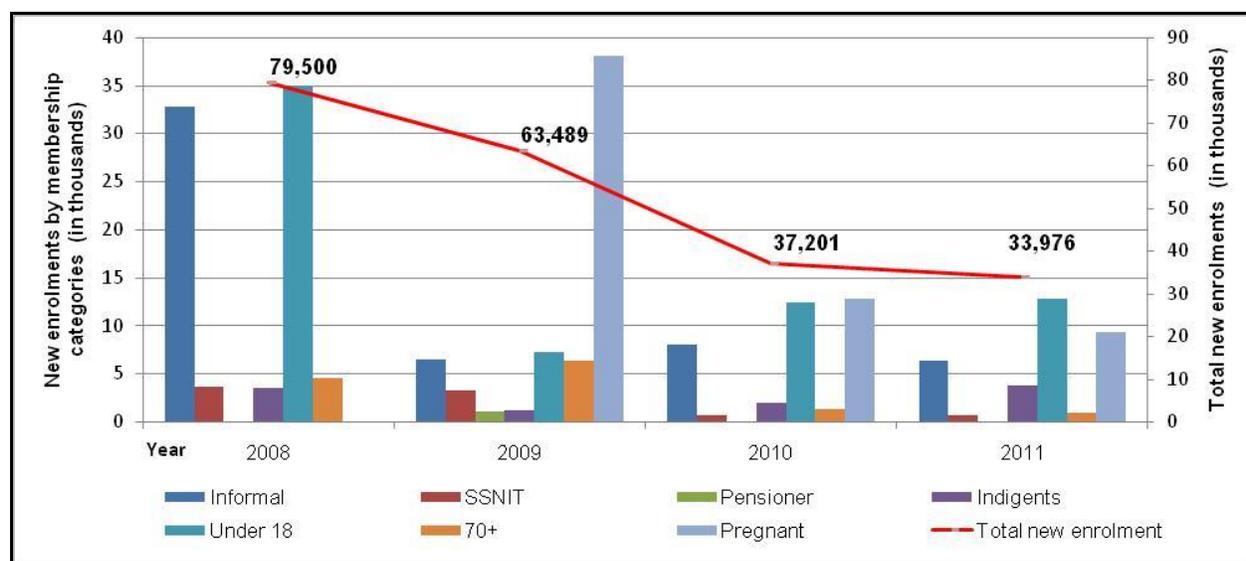
The official enrolment data suggests that the uptake of NHIS insurance in Tamale District is generally low. In 2011, only around 21 percent of the population in the district were insured, seven years after the NHIS' introduction (see Table 6.1). This figure obviously fell short of the NHIS' goal of achieving universal insurance coverage by 2008, paralleling the Northern Regional and national enrolment rates of 26 percent 33 percent respectively (NHIA, 2011). Due to lack of sufficient NHIS enrolment data<sup>19</sup>, it was not possible to assess in detail the trend of

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<sup>19</sup>Total enrolment is calculated as the total number of newly registered members plus number of individuals who renewed their membership for the year. The DMHIS explained that they did not have record of membership renewals between 2006 and 2009. As a result, it is not possible to calculate the NHIS total membership for 2006 to 2009.

total enrolment in the Tamale District. However, the available data shows a steady decline in new enrolments. Between 2008 and 2011, new enrolments fell by 57 percent (see Figure 6.1). This consistent decline in new enrolment was true of all the membership categories<sup>20</sup> (see Box 1.1), except the indigent category whose membership increased slightly after 2009. Also, the rate of membership renewal appears to be very low. Although no longitudinal data on renewals was available, in 2009 and 2010, the number of insured members who renewed their membership was only 46 and 49 percent respectively (see Appendix 10).

**Figure 6.1 New NHIS enrolment in the Tamale District (2006 – 2011) by membership category and total<sup>21</sup>**



Source: Author's construct based on data from Tamale DMHIS.

<sup>20</sup> There are seven membership categories in the NHIS: adult informal workers, Social Security and National Investment Trust (SSNIT) members (formal sector workers), pensioners, elderly (65+), pregnant mothers; indigents (core poor), and children under 18 years (minors) (NHIA, 2010).

<sup>21</sup> The figures in the chart are in thousands. The bars represent new enrolment by the various NHIS membership categories. These correspond to the figures on the left y-axis. Where a membership category is not represented in a particular year, it means that they recorded zero enrolment for that year. The red line represents the trend in total new enrolment. It corresponds to the figures on the right y-axis.

Figure 6.1 shows disparities in new enrolments among the membership categories. Thus, new enrolment was relatively high among the under 18s and pregnant mothers, which was partly due to the premium exemption they enjoyed (see section 6.2.5). But despite this, their numbers also declined substantially after 2010, suggesting the presence of other constraints to NHIS uptake other than just the premium. The decline in new enrolment was greatest among the adult informal category, which seems to have been partly due to the premium they were required to pay (see section 6.2.1). The low proportion of the SSNIT category is partly due to the small number of formal sector workers in the district (see section 5.1); but the decline in new enrolment after 2008 seems to be partly due to low satisfaction with the quality of NHIS care (see section 6.2.7).

**Table 6.1 Actual NHIS membership coverage in Tamale District in 2011**

<b>NHIS members Category</b>	<b>Male</b>	<b>Female</b>	<b>Total</b>	<b>% of NHIS members</b>	<b>% of NHIS members in the Tamale District<sup>22</sup></b>
Informal	7,860	11,259	19,119	24.0	-
SSNIT contributors	3,221	2,642	5,863	7.3	-
Pensioner	138	114	252	0.3	-
Indigents	2,437	3,518	5,955	7.5	-
Under 18	16,534	17,229	33,763	42.3	-
70+	1,959	2,663	4,622	5.8	-
Pregnant mothers	-	10,245	10,245	12.8	-
<b>Total</b>	<b>32,149</b>	<b>47,670</b>	<b>79,819</b>	<b>100</b>	<b>21.5</b>
<b><u>Gender</u></b>					
Males			32,149	40.3	17.3
Females			47,670	59.7	25.7

Source: Author's representation based on data from Tamale DMHIS.

<sup>22</sup> Due to lack of district level data on most of the population categories it was not possible to calculate the proportion of the categories that are enrolled in the NHIS. The remaining figures in the column are based on the 2010 population census figures (GSS, 2012).

Beyond the trends in new enrolments, the actual NHIS membership data (total membership) reveals disparities in coverage among the different membership categories (see Table 6.1), which indicates inequities in coverage. Unfortunately the data is not sufficiently disaggregated according to most of the social attributes (geographic, socioeconomic and occupation). However, using data from the sample researched in the fieldwork for this study, it is possible to offer some qualitative insights into the question of equity in NHIS coverage.

The sample data showed substantial disparities in enrolment segmented by socioeconomic, occupation, gender and geographic differences. Among the poor respondents, only a third (32.8 percent) was insured compared with about three-quarters (73.3 percent) of the well-off respondents and 82.4 percent of the middle class respondents (see Table 6.2). This enrolment pattern seems consistent with the findings of similar studies on the NHIS in which enrolment was found to be associated with socioeconomic status (Asante and Aikins, 2008; Jehu-Appiah *et al.*, 2011). However, what is different in my finding is that middle class individuals appeared to be more likely to insure than well-off individuals. This seems rather surprising given the strong correlation between income and insurance uptake (Jutting, 2005). It emerged that this is partly due to greater participation of middle class individuals in the Tamale District in formal sector employment, which often accorded them 'free' membership in the NHIS (see section 6.2). Also, the 'free' membership for formal sector workers (SSNIT contributors) meant that disparity in enrolment along occupational lines was likely. Hence, nearly three-quarters (72.4 percent) of formal sector workers who were surveyed were insured, compared with only about half (58 percent) of the informal sector respondents (see Table 6.2).

There was certainly a gender disparity in the NHIS coverage, with female enrolment consistently higher than males in both the official enrolment and the fieldwork sample data. As shown in Table 6.1, females accounted for around 60 percent of the total NHIS members in Tamale District in 2011. This represented around 26 percent of the total female population in the district, compared with only 17 percent of the male population who were insured in that year. Female enrolment in all the membership categories was higher except for the SSNIT and Pensioner categories (see Table 6.1), which seem to reflect women's relatively low participation in formal sector employment in the district (UNDP, 2012). Similarly, the qualitative data showed that females were about twice (1.7 times) as likely to insure as males (see Table 6.2). This gender disparity may seem unsurprising given women's relatively high proactive healthcare seeking behaviour (Nanda, 1998). However women in Northern Ghana are socially marginalised (Lund,

2003), and have been reported to enrol relatively less in the NHIS (Brugiavini and Pace, 2010). Therefore it would have been expected that their membership level in the NHIS would be relatively lower than men. Part of the reasons for the gender disparity is due to a range of factors such as women’s relatively greater aversion for health risk and adverse selection at the household level (see section 6.2).

**Table 6.2 Attributes of insured and uninsured respondents in Tamale District**

<b>Background characteristics</b>	<b>Insured (%)</b>	<b>Uninsured (%)</b>
<b><u>Socioeconomic status</u></b>		
Well-off	73.3	26.7
Middle	82.4	17.6
Poor	32.8	67.2
<b><u>Gender</u></b>		
Male	36.2	63.8
Female	60.3	39.7
<b><u>Geographic</u></b>		
Rural	41.4	58.6
Urban	65.5	34.5
<b><u>Occupation</u></b>		
Formal	72.4	27.6
Informal	58.6	41.4

Source: Author’s construct based on interview data.

Moreover, the qualitative data showed that urban residents were about twice (1.8 times) more likely to insure than rural residents. Across the FGDs and interviews, urban residents were found to have better opportunity to enrol in the NHIS than rural residents (see section 6.2). This is in line with similar findings by Chankova *et al.* (2008) on enrolment in a CBHI scheme in the Nkoranza and Offinso districts in Ghana, but contradicts with those of Jehu-Appiah *et al.* (2011a) who found rurality to be associated with an increased likelihood of enrolment in the NHIS in Eastern and Central regions of Ghana. Jehu-Appiah *et al.* (*Ibid*) attributed their findings partly to high poverty rate in rural areas which enabled most residents to benefit from the NHIS premium exemption for indigent population. However, in Tamale District the indigent exemption policy was largely ineffective (see section 6.2.5), besides most rural residents were relatively

poorer and engaged in informal economic activities, mainly farming, which affected their financial ability to enrol in the scheme.

Thus, coverage of the NHIS in Tamale District appears to have fallen short of the universal insurance coverage target of the NHIS, although achieving a coverage rate of around 22 percent in seven years seems like a good performance compared with most SHI systems in low income countries (Carrin, 2003). But the question remains if the NHIS is able to expand beyond its current coverage level in order to achieve a universal insurance coverage? Also, the enrolment disparities based around socioeconomic, occupation, geographic and gender attributes raise questions about the equity of the NHIS coverage. In order to ascertain these questions, it is imperative to first examine factors that have shaped the patterns in the membership coverage.

## **6.2 Understanding the reasons for the disparities in NHIS coverage in Tamale District**

This section discusses key demand and supply side factors that affect NHIS enrolment in the Tamale District. These factors have been categorised as follows: affordability of enrolment, adverse selection and perceived health risk, protection against future healthcare costs, knowledge about the NHIS, premium exemptions, scheme design and implementation factors; and availability and quality of healthcare. The behavioural model (i.e. predisposing, enabling and need factors) was applied to identify and understand the factors affecting NHIS enrolment (see Table 3.1).

### **6.2.1 Affordability of enrolment**

The NHIS is a premium based scheme and therefore enrolment would be expected to be influenced by individuals or household financial ability to afford the cost of enrolment. Across the interviews and FGDs, unaffordability of enrolment cost was the most commonly cited reason for non-enrolment, particularly among poor respondents. Although there were different aspects to the NHIS enrolment cost, most uninsured respondents often alluded to their inability to afford the direct cost, particularly the premium.

*“Everybody says the health insurance is good. I wanted to register so I can also benefit from it. But they [NHIS administrators] said I needed to pay GHs12 before they will register me, but I haven’t got the money.... If I had money I would enrol and renew every year.”* (Interview: Uninsured female respondent 017, poor, rural resident)

Similar observations have been reported by studies on the NHIS and other SHI schemes in low income countries (Asante and Aikins, 2008; De Allegri *et al.*, 2005; Bhat and Jain 2006). Such direct cost constraints to enrolment raise concerns not least because SHI premiums (and loading fees) are supposed to be based on individuals’ ‘ability to pay’. This raises the question whether the unaffordability was due to a high premium or some other factors.

**Table 6.3 Per capita income and expenditure in Ghana, and cost of enrolling in the NHIS in Tamale District**

<b>Description</b>	<b>Amount (GHs)</b>
<b><u>Annual per capita income (by quintile)</u></b>	
Lowest	116.0
Second	198.0
Third	296.0
Fourth	359.0
Highest	688.0
Total average	397.0
<b><u>Annual consumption expenditure</u></b>	
Food	278.0
Health	32.0
<b><u>NHIS enrolment cost<sup>23</sup></u></b>	
Registration fees ( one-off)	5.0
Yearly premium	7.2
Cost of transport to DMHIS office in Tamale (urban resident)	2.0
Cost of transport to DMHIS in tamale ( rural resident)	4.0

Source: GSS (2008) and field data.

<sup>23</sup> These are based on 2011 figures.

At the time of the fieldwork in 2011, the direct cost of enrolment in the NHIS in the Tamale District entailed a one-off registration fee of GHs5.00 (US\$2.30) and an annual premium of GHs7.20 (US\$3.20), making a total of GHs12.20 (US\$5.40). The premium was flat rate for all informal sector members. In addition, individuals also incurred a transportation cost of around GHs2.00 (US\$0.90) if they had to travel to the DMHIS office to enrol, although this amount could be double for individuals who lived in remote parts of the district. It cost around GHs14.00 (US\$7.20) to enrol in the first year and GHs7.00 (US\$4.10) to renew membership in subsequent years. This enrolment cost was about 12 percent of the average annual per capita income of the lowest quintile (i.e. poor), 4 percent for the third quintile (middle class), and 2 percent for the highest quintile (well-off) (see Table 6.3). Thus, the enrolment cost placed a disproportionately high financial burden on poor individuals and therefore affected their ability to enrol. Understandably, the majority (68.2 percent) of uninsured respondents who mentioned unaffordability of enrolment as the key reason for non-enrolment belonged to the poor category.

Most poor households in the district relied on subsistence farming and petty trading as a source of livelihood. Many farmers complained that they could not increase their income due to lack of fertile lands, poor climatic conditions, and short farming season. They were mainly economically active only during the rainy season which lasted for six months. Some of the petty traders also relied on farm produce for their business and therefore their income was also shaped by climatic conditions. During the off-farming season, most poor households often relied on remittances and windfalls from family members. Thus, not only were poor households faced with low income, their incomes were precarious and patterned by the season. Yet the NHIS lacked flexible payment modalities for the premium payment, resulting in the inability of most of them to enrol. The NHIS premium and registration fees were supposed to be paid in full during enrolment or renewal. As the fit model would suggest, there were incompatibilities between the economic characteristics of poor households and the NHIS payment modalities. This often caused financial difficulties for poor households, especially when enrolment or renewal dates were due in the off-farming season:

*“... The registration officer visits this village when we don't have money. Until we harvest our crops we don't usually have money for things like health insurance. They visit us in the dry season, but around that time we don't have money.... tell them [NHIS officers] to*

*come when we are harvesting our crops and all of us will register”* (FDG: Uninsured male participant, poor, rural resident)

Ahuja and Jutting (2004) have argued that credit facilities are needed to enable poor households to deal with income fluctuations in order to meet their premium obligations. Although a few respondents blamed non-enrolment on lack of credit facilities, it is doubtful that the availability of such credit opportunities would have spurred greater enrolment among poor households in the Tamale District. The majority of poor respondents were unwilling to borrow money to enrol in the NHIS because insurance was considered as a non-emergency:

*“I only take loan when there is an emergency. Health insurance is not an emergency. If I have money I will register but if I have not got money I will not borrow just because of health insurance.”* (Interview: Uninsured female respondent 001, poor, rural resident)

In addition, there was widespread antipathy towards borrowing mainly because most individuals’ Islamic faith forbade them from paying interest on loans. Some respondents also perceived borrowing as a form of ‘begging’ which undermined their reputation.

*“...when you take a loan they want you to pay interest, but the religion [Islam] forbids us from paying interest.... As a respectable person I don’t want to go out begging people to lend me money....”* (FGD: Uninsured male participant, poor, urban resident)

Some well-off individuals were generally less willing to lend out or help people to enrol because they did not consider health insurance to be ‘serious’ or urgent enough. Rather, they were often more willing to pay for the medical bills of an individual than to pay for them to enrol in the NHIS.

*“If you came to me to say you wanted GHs 7 to register [in the NHIS], I will say no.... [Because] insurance is not an emergency, it is not like you are seriously sick and need the money to go to the hospital”* (FDG: Insured male participant, well-off, rural resident)

Thus, high enrolment costs and the lack of flexible payment opportunities were key reasons for the unaffordability of enrolment among poor households. However, in some cases unaffordability was also an issue of household spending priorities. Some poor respondents often mentioned that their lack of NHIS insurance was due to an inability to afford the enrolment

costs, when actually it was because they did not consider health insurance as a priority. In order to test this observation, respondents who mentioned unaffordability as a reason for non-enrolment were given a hypothetical list of items and asked to rank them based on what they would spend a GHs100 gift on. Surprisingly, health insurance was not in the top four of the items that most of them mentioned (see Table 6.4). Although most of these respondents mentioned that health insurance was important, they often considered it as a 'luxury' and would purchase it only when they had money to spare:

*"My income is very small. I am a bicycle caretaker for this hospital. On a good day I earn about GHs5. With this small amount, I have to plan. I make sure I feed my family as a priority, then the electric and water bills... two of my sons are in secondary school and I need to pay their school fees and give them their spending money every week. So by the time I finish paying for all these things, I would have nothing left for the insurance.... Health insurance is good but it can wait.... it is not urgent."* (Interview: Uninsured male respondent 038, poor, urban resident).

It can be inferred from Table 6.4 that most poor households prioritise expenditure based on their perception of the urgency of that expenditure. Although they perceived that health insurance would enable them to afford healthcare and cut down on future healthcare cost, they preferred to prioritise current medical expenditure over health insurance because the former was deemed to be urgent and offered immediate utility. Baicker *et al.* (2012) argued that low income individuals tend to have a 'present bias' attitude i.e., their financial decisions tend to be driven more by present losses and gains than similar ones in the future. As a result, poor people are likely to postpone present costs even if they are aware that that will affect their welfare in the future. Thus, because the benefit of the NHIS is 'futuristic', poor households were less motivated to prioritise expenditure on NHIS enrolment over other things that produced immediate gratification.

The need for immediate gratification may also explain why most respondents prioritised food and clothing over all other household expenditures. But although these choices are largely psychological, based on individual's perception of the value of the health insurance, they are equally shaped by household and individual economic conditions. Based on the time preference theory (see section 2.3), Schneider (2004) has argued that poor households are most likely to prioritise expenditure on immediate basic needs when they are faced with budget constraints.

The opportunity cost for purchasing NHIS insurance was higher in terms of unmet household needs that enrolment money could be spent on. Such attitudes may be explained as a coping mechanism by poor households for dealing with greater household needs in the context of limited income.

**Table 6.4 Poor respondents' ranking for different household expenditure**

Rank	Food and clothing	Rent and utility bills	Social activity	Health care bills	Health insurance
First	9	2	1	4	1
Second	4	4	1	6	2
Third	2	7	2	4	2
Fourth	1	2	8	2	4
Fifth	1	2	5	1	8
<b>Total (N)</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>	<b>17</b>

Source: Author's construct based on field data.

Thus the unaffordability of enrolment cost appeared to have accounted for most of the socioeconomic disparities in the NHIS coverage. Unlike other studies that have tended to frame unaffordability of enrolment as an issue of high premiums (Kamuzora and Gilson, 2007; Asante and Aikins, 2008; Chankova *et al.*, 2008), this thesis finds that it is also due to household spending priorities, budget constraints, and a lack of flexible premium payment modalities. This finding confirms those of Jutting (2004), who emphasised individual and household economic conditions as key determinants of the affordability of SHI scheme membership. It also underscores the importance of high income as an enabling factor of enrolment in the NHIS and a precondition for universal insurance coverage, as argued by Carrin (2003).

### 6.2.2 Adverse selection and perceived health risk

There are two interrelated functions of health insurance: financial protection against *future* healthcare cost and financial access to meet *immediate* healthcare needs. The second function often leads to adverse selection, which is the tendency for individuals to enrol in an insurance scheme due to their poor health condition (Culyer, 2010). Although adverse selection poses

financial risks to the insurance scheme, it was found to facilitate enrolment among poor households.

Across the interviews and FGDs, the majority of poor respondents mentioned that they were motivated to enrol in the NHIS in order to access healthcare to address their unmet health needs. Most of the poor insured respondents shared the following attributes: 'currently ill', 'anticipate a need for healthcare in the immediate future', or 'had experienced catastrophic healthcare cost in the past':

*"I have hypertension and I am supposed to go to hospital every month for check up. There is no one to help me pay for this... so my son paid for me to insure so that I can go to the hospital every month."* (FDG: Insured female respondent, poor, urban resident)

Thus, most poor individuals enrolled in the NHIS because they perceived a need for healthcare and thus insured in order to be able to afford such treatment. On the other hand, perceived good health status was found to be the second most cited key reason for non-enrolment and the most cited key reason for non-renewal among poor uninsured respondents. The majority of poor respondents were unlikely to renew their membership if they did not use NHIS care in the previous year:

*"I don't usually fall sick so if I register I will be wasting my money ..."* (Interview: uninsured male respondent 020, poor, urban resident)

*"I registered in 2009 but never used it... I don't usually fall sick. So that is why I decided not to renew my card"* (FDG: Uninsured male participant, poor rural resident)

Most female insured respondents perceived themselves to have greater health needs and often alluded to reproductive health. They were mostly motivated to enrol by their perceived health problems, and this partly explains the gender disparity in enrolment skewed towards women:

*"Health insurance is very important for us women because we fall sick at least once every month. When we're not even pregnant, we still fall sick every now and then."* (Interview: Insured female respondent 009, middle class, urban resident)

In poor households, women were generally perceived to have greater health needs, and as a result their enrolment in the NHIS was often prioritised over men. Men were generally perceived to be 'healthy' and 'strong', and thus were thought not to need health insurance urgently:

*"The health insurance is good but I didn't have enough money to register all of us [family]. So I decided to register my wife and the children....They often fall sick and it cost a lot of money to send them to hospital when you don't have health insurance.... For us [men] we don't need it [health insurance] ....I can't remember when I was last ill."*

(Interview: Uninsured male respondent 004, poor, urban resident)

The prioritisation of women's enrolment in the household seemed surprising, particularly given that women in a low income context are mostly marginalised in terms of health seeking ( see section 5.1) (Nanda, 1998). However, it is understandable within the cultural context of the Dagomba ethnic group where a wife's health is accorded greater significance by the husband in order to prevent potential conflict between the husband and the wife's families.

*"... in our culture when you marry a woman you [literally] borrow her from her family and so you must take good care of her otherwise her family will not be happy with you.... Nobody respects you if you cannot provide good healthcare for your wife.... So I always make sure I pay for her [wife] insurance and if I still have some money left I pay for the rest..."* (FGD: Insured male participant, poor, rural resident)

The prioritisation of women in enrolment may also be explained as a way of minimising household healthcare expenditure by insuring members who have greater health risks.

Such adverse selection tendencies has been reported in the literature on the NHIS (Blanchet *et al.*, 2012; Jehu-Appiah *et al.*, 2010; Brugiavini and Pace, 2010) as well as SHI schemes in other low income countries (Chakova *et al.*, 2008). In the case of poor households in the Tamale District, adverse selection appeared to be another mechanism for coping with household budget constraints, by spending on health insurance only when the benefits are imminent i.e., when they were ill and could gain treatment from using the health insurance. Thus, the prioritisation by poor individuals of medical expenditure over health insurance, as shown in Table 6.4, is likely to be reversed if they realise that health insurance would offer immediate access to healthcare services. Therefore, the engagement in adverse selection behaviour by poor individuals is

another indication that their expenditure decisions are influenced by the need for immediate gratification.

In light of this, and given that poor people have relatively greater observed health needs (Ahuja and Jutting, 2004), it was anticipated their motivation to participate in the NHIS would be greater. However, although some insured poor respondents (47 percent) did enrol primarily due to poor health status, it appeared poor health did not generally stimulate as much enrolment among poor individuals as was expected. Part of the reason was that most of the uninsured poor respondents appeared to underrate their health risks. Unlike the other socioeconomic groups, most poor respondents tended to consider a condition as an ‘illness’ requiring medical attention only when it is symptomatic, severe, and ‘incapacitating’:

*“Malaria is not anything serious. You don’t need to go to the hospital because of that... when I have it I just rest or boil some herbs and drink...If you enrol in the NHIS because you have fever you are just wasting your money”* (Interview: Uninsured male respondent 007, poor, rural resident)

Thus, although enrolment among poor individuals was largely driven by health need, the majority of poor respondents did not often perceive themselves to be ill enough to insure. In line with this observation, Freimuth and Hovick (2012) have underscored the socioeconomic variations in individuals’ perception about their health risks, and argued that poor people are more likely to underestimate their susceptibility to health risks and/or the severity of their health condition. The field data suggests that in Tamale District, such distorted perceptions are driven by poor education, illiteracy, cultural beliefs, and lack of financial means to undertake health screening. Kahneman and Tversky (1979) have argued that individuals tend to give too much importance to low probabilities and too little significance to high probabilities. The high health risk among poor people appeared to have led them to perceive illness as trivial or normal, and to develop a high degree of risk tolerance, contributing to a low motivation to enrol:

*“Sickness is part of our lives as human beings. As long as we live we have to accept that we will live with it [illness] every day....So I am not too scared of illness.... For me I will say I am always sick so it is not a big deal...”* (FGD: Uninsured male participant, poor, urban resident)

Many scheme administrators complained about the high prevalence of adverse selection in the NHIS and noted that this threatened the financial sustainability of the scheme. In order to minimise adverse selection in the NHIS, the DMHIS applied a three-month waiting period on new enrollees before they could access the NHIS benefit services. Although this appeared to have minimised adverse selection, a number of respondents reported that they were discouraged from insuring due to such waiting period:

*“When you register you don’t get your card [to access healthcare] until after 3 months, sometimes more. My friend used all her money to register and the week after that she became ill.... We had to borrow money to pay up the hospital bill.... So there is no point insuring when you cannot use it immediately”* (Interview: Uninsured female respondent 026, middle class, urban resident)

Thus, perception about health risk is an important explanatory factor in shaping gender and socioeconomic disparities in the NHIS coverage. In contrast to Jutting’s (2004) suggestion that poor people will readily enrol in a subsidised health insurance scheme due to their greater health needs, it emerged that poor health risk did not stimulate greater participation in the NHIS among poor individuals in the Tamale District due to a distorted perception about health risk. The fact that awareness and perception of health risk are important determinants of adverse selection may suggest that middle class and well-off individuals, who are mostly well informed about their health, would be more likely to engage in adverse selection. The contradiction though is that fewer respondents in the middle class and well-off categories mentioned health risk as a reason for enrolling or not enrolling in the NHIS. Further research is perhaps needed to assess how socioeconomic attributes influence the tendency to engage in adverse selection.

### **6.2.3 Protection against future healthcare cost**

In contrast to low income households who were motivated by the *immediate* financial access to healthcare benefits of the NHIS, high socioeconomic groups were mainly motivated by the NHIS protection for *future* healthcare costs. Although both of these entail financial protection, the former is related to present healthcare costs while the latter is more about protection against unknown future healthcare costs. This separation is critical for understanding what actually motivates different socioeconomic groups to enrol in the NHIS.

The majority of middle class and well-off insured respondents noted that they enrolled in the NHIS in order to protect themselves against future healthcare costs. Such respondents often alluded to the importance of good health for their wellbeing and ability to work to support their family:

*“... I need to protect myself for the future... now I am fine, but you don't know what would happen tomorrow. I am the head and neck of this family and, God forbids, if I become ill tomorrow and can't pay the medical bills this family would be devastated”*

(Interview: Insured male respondent 007, middle class, urban resident)

In a similar study in Eastern and Central regions of Ghana, Jehu-Appiah *et al.* (2011a) found that financial protection against illness was the main reason why most people enrolled in the NHIS. The need for protection against future healthcare cost is largely due to individual's aversion to risk (Arrow, 1963). Thus, it was not surprising that individuals' decisions to enrol in the NHIS were driven by such motives. What is significant is the socioeconomic variations, and how this may have contributed to the disparities in NHIS coverage.

The majority of insured well-off and middle class respondents were of the view that they could afford most of their present healthcare needs. This was in contrast to most insured poor respondents who said they could not afford most of their healthcare needs prior to enrolling in the NHIS. However, most of the well-off and middle class respondents were concerned that they could be afflicted with an illness in the future which they may not be able to afford the cost of treatment:

*“The health insurance is a form of security for me.... I'm a Graduate Teacher and so I get paid every month. I can use some of the money to go to the hospital if I have malaria. But you can't predict what illness you get tomorrow and if your salary will be enough to save you.”* (FDG: Insured male participant, middle class, urban resident)

Some well-off and middle class insured respondents also feared that a catastrophic illness could force them to solicit help from friends and family members and thereby undermine their reputation. Such respondents saw the NHIS as a means for safeguarding their financial independence and social reputation:

*“I registered [in the NHIS] so that in future if I am afflicted with a serious illness my wife will not go out begging to get my medical bills paid. If that happened people would laugh at us. I am well respected in this community and I don't want sickness to tarnish my reputation....ask anyone around, if they need anything it is me they come to for [financial] help”* (Interview: Insured male respondent 008, well-off, rural resident)

The poor respondents were equally concerned about future healthcare costs and the need to protect themselves against such costs, but were less likely to enrol in the NHIS just because of that reason. They preferred to rely on existing informal social protection arrangements to protect themselves against future health shocks. It was very common among low income households to invest some of their income in livestock and easily tradable items in anticipation that they could sell them to pay their medical bills when they were ill. Some poor respondents expressed their preference for such arrangements than the NHIS because they perceived the former to be flexible and cost-effective:

*“Everybody needs to protect themselves against the future.... the insurance is good but I am already protected because I have some sheep. The money you use to register for the insurance you can use it to buy a female sheep and if you are lucky by next year your investment would double. You can sell one when you are sick and need money to go to hospital...”* (Interview: Uninsured male respondent 010, poor, rural resident)

The bureaucracy associated with enrolling in the NHIS was understandably a disincentive for many low income individuals, who were mostly illiterate and as such could not cope with the huge paperwork associated with it.

*“The process is just too much....first you have to go all the way to Tamale to register, and then wait for so long before the card comes. And then you have to renew it every now and then.... it is just too cumbersome.... Some of us have not been to school, so it is difficult to understand the health insurance.... If you have an asset that you can sell when you are sick it is better”* (FDG: Uninsured male participant, poor, rural resident)

Some poor respondents also relied on support from family and friends to deal with health shocks in the absence of health insurance. Such support arrangements were particularly common in rural areas and were embedded in the social structure. Most individuals spent a

substantial amount of their resources to help people in need in expectation that they would be paid back when they also experience financial difficulties. Adult members of the extended family, particular those that were better off, were obliged to support younger and elderly members. Such support ranged from food handouts to payments of medical bills. Expectations about the availability of such informal social protection arrangements discouraged some low income individuals from seeking formal protection (in the form of enrolling in the NHIS) against future healthcare costs:

*“Most of us have children who will pay for us to go to hospital when we are sick. So we don’t really need health insurance.... The thing is, if you are sick they [relatives] are happy to help you [financially], but if you need money to do anything else, even health insurance, they will not help you.”* (FGD: Uninsured male participant, poor, rural resident)

The informal social protection arrangements crowded out the value of the NHIS for low income households, contributing to their low enrolment. Similar findings have been reported by Jowett (2003) in Vietnam where informal credit arrangements were found to have reduced the need for an uptake of health insurance.

Some poor respondents, mostly rural residents, were of the view that illness was caused by ‘evil spirits’ and therefore hedging against it in the form of insurance, which covered only medical care, was unnecessary:

*“... It is the spirits who give sickness and it is through them that you can get cure for those illnesses.... So health insurance is not needed.”* (Interview: Insured male respondent 033, poor, urban resident)

Similar observations have been made by Basaza *et al.* (2008) in Uganda where insurance was feared by certain community members because it was thought to be interpreted by ancestors as an invitation for illness.

However, Verpoorten and Verschraegen (2008) have underscored the limitations of informal social protection arrangements for dealing with health shocks. They argued that due to the small nature of communities and families that are involved in it, they are often unable to deal with complex risks. This was true of Tamale District as members of certain households or extended

families were often too poor to support one another in times of financial need. Some middle class respondents complained about the pressures of supporting their poor relatives, and acknowledged that such supports were waning. Also, there appeared to be an increasing nuclearisation of the family, which has affected the effectiveness of the reciprocal support arrangements. Notwithstanding these limitations, low income individuals still relied on the informal social protection systems and as a result often failed to enrol in the NHIS.

In sum, the aversion to future health shocks and related problems such as loss of income and respect motivated most middle class and well-off individuals to enrol in the NHIS, contributing to their relatively better coverage than low income individuals. On the other hand, the presence of informal social protection arrangements crowded out the value of the NHIS for dealing with health shocks by low income households.

#### **6.2.4 Knowledge about the NHIS**

De Bock and Gelade (2012) argue that knowledge about an insurance scheme is an essential determinant of enrolment in the scheme. In order for individuals to effectively participate in an insurance scheme, they need to understand the concept of health insurance; be aware of the existence of the insurance scheme; and understand the terms of the insurance scheme. An understanding of the principles of health insurance is essential to enable the individuals to appreciate the collective risk pooling function of health insurance. Awareness about the existence of the insurance scheme is also needed to enable individuals know where and how to enrol. Also, knowledge about the terms and operation of the insurance scheme is critical for both potential and actual members to effectively participate in it (*Ibid*).

The NHIS used a range of mediums to raise awareness about the scheme and educate members about the terms of operation of the scheme. Awareness about the NHIS was mostly conducted in TVs, radios, billboards, and community sensitisation durbars. Most of these programmes were designed at the local level by the DMHIS and therefore tailored to the information needs and literacy capabilities of the local population. Consequently, there was greater awareness about the existence of the NHIS and how to insure among all the socio-economic groups (see Figure 6.2):

*“...everybody in this community knows about the health insurance. Unless you have no radio in your village, you will surely know about it... they are always announcing it on radio. When it first started they used to announce it in the mosque as well. They even organised meetings to talk to us about it...”* (FGD: Uninsured female participant, poor, rural resident)

However, the weakness of the awareness campaigns was that the scheme administrators did not educate at the individual level about the concept and principles of the NHIS, particularly risk sharing and cross subsidisation. As a result, the majority of poor respondents perceived the NHIS as a government healthcare scheme for accessing free healthcare rather than a collective risk sharing scheme. Such misperceptions were also due to flaws in the NHIS campaign which mostly framed the NHIS as a ‘free’ healthcare programme. Consequently, most illiterate respondents did not understand the logic of premium payment as they often could not reconcile it with the notion of ‘free healthcare’:

*“They announced it on radio that it [NHIS] is free, but when you go there to register they ask you to pay.... I can’t understand. I think they are lying to us.”* (FGD: Uninsured female participant, poor, rural resident)

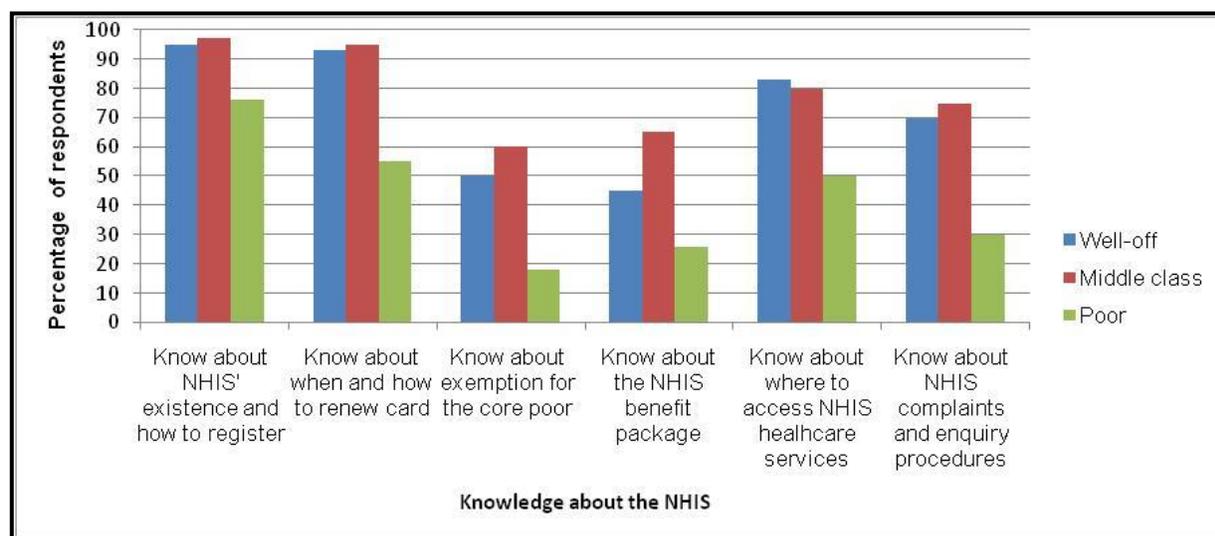
Most poor respondents tended to enrol only when they expected to benefit directly from their membership and not because it contributed to societal good. Some poor respondents fail to appreciate the need to pay the premium to renew their membership when they had not used NHIS care in the previous year. Such misperceptions often led to high dropout by low income individuals. Although respondents said that altruism and reciprocity were cherished values in the society, many did not perceive the NHIS to embody these values due to a poor understanding about the social solidarity and risk sharing principles of the NHIS:

*“... It is good for the rich to give ‘sadaqat’ [alms] to the poor. Islam expects us to help those who are in need.... But health insurance is not “sadaqat” because you pay the money [premium] and they use it to provide healthcare for you when you are ill.”*  
(Interview: Insured male respondent 002, middle class, urban resident)

It emerged that some low income households were largely ill-informed about the specific details and operation of the NHIS and therefore were unable to participate effectively in the scheme.

Respondents were tested on their knowledge about key areas of the NHIS that were deemed to be essential for effective participation. As shown in Figure 6.2, poor respondents scored relatively far less in all the knowledge areas. Especially, the majority of them were not aware of the premium exemption facility for indigents and the NHIS benefits package. They mostly relied on healthcare providers for information about the NHIS benefits package, and therefore were unable to tell if services that were due to them were under-provided. Some poor respondents did not also know when their membership renewal was due. Interestingly, across most of the knowledge areas, middle class respondents were relatively better informed about the NHIS than all other respondents including well-off, which may have contributed to their relatively higher uptake of the NHIS. The reason for this was not very clear, but it appears their relatively better education contributed to the slight variation in knowledge about the NHIS. There were also geographical differences in respondents knowledge about the NHIS, with rural respondents relatively poorly informed about all the knowledge areas.

**Figure 6.2 Knowledge about key areas of the NHIS by socioeconomic status (N=65)**



Source: Authors construct based on field data

The poor knowledge about the specific details of the NHIS was mainly due to flaws in the NHIS education programme. Unlike the awareness campaigns, information about the NHIS details was transmitted through brochures, website and face-to-face contact with enrolment officers. Both the content of the information and the medium of education were not tailored to the needs

and capability of illiterate members of the NHIS. Most people could not access the internet or read the brochures and therefore were unable to understand how the NHIS works:

*“...when I asked them [Enrolment Officers] to tell me what services the insurance covered they gave me a small book and told me everything was inside .... But I can't read... and there is no one to read it for me...”* (Interview: Insured female respondent 012, poor, urban resident)

Although the NHIS enrolment officers were supposed to educate members on the terms of the scheme during registration, they mostly skipped such tasks due to understaffing and high workload:

*“We always have long queues of people waiting to register.... there is always so much pressure here. Because of that we are not able explain everything [about the NHIS] to everyone... if they ask, we explain it, but if they don't, we assume they already know...”* (Interview: Enrolment Officer, Tamale DMHIS)

Most insured members who were illiterate required the support of the enrolment officers to understand the terms and operation of their insurance. The lack of such support left most such members unable to keep track of the administrative requirements of their membership, leading to high dropout:

*“...when I was registering they just took the money and gave me a receipt. They did not tell me that I needed to come back to renew. I took it to the hospital last year and they told me it had expired. When I went back to the office [DMHIS] they asked me to pay the premium and the registration fees but I did not have the money. That is why I am not insured now....”* (FGD: Uninsured female participant, poor, urban resident)

Another limitation of the NHIS education programme was the lack of adequate resources for NHIS enquiries and complaints. The DMHIS did not have telephone facilities for dealing with queries. As a result, people needed to travel to the DMHIS office in the district capital in order to make enquiries or complaints. Such travels involved substantial transaction cost, particularly for rural residents. Also, the DMHIS had only one officer (the Public Relations Officer) responsible c

Pregnant women have greater healthcare needs due to their pregnancy and therefore would be expected to enrol in the NHIS in greater numbers given the exemption. This may have contributed to the gender disparity in NHIS coverage. As shown in Table 6.1, in 2011, pregnant mothers accounted for nearly 13 percent of the total NHIS membership and about 22 percent of the total female membership in the Tamale District. However, the data also reveals that this exemption was not solely responsible for the gender difference and that even without it female enrolment has still consistently significantly higher than male since the introduction of the NHIS. In 2011, the exemption for pregnant women accounted for only 34 percent of the difference in enrolment between male and female in the Tamale District.

The majority of women respondents were generally content with the exemption. Most poor women appeared to have benefitted greatly from it, as demonstrated in their praise for it during the interviews and FGDs. Some women noted that they could not have afforded the NHIS premium without the exemption:

*“As far as I can remember, since I was born, it [the exemption] is the only good thing government has ever done to show that it cares for poor women.... If it was not for it I don't think I could have enrolled”* (Interview: Uninsured female respondent, poor, urban resident)

*“The exemption has helped our wives and daughters a lot. Now if they are pregnant they are given insurance which is good for their health... without the exemption it will be difficult to do the insurance for everyone in the family....I don't have the insurance but my wife has because of her pregnancy”* ( FGD: Uninsured male participant, poor, urban resident)

However, while the uptake of the exemption was generally high, coverage was not optimal. The enrolment data for the Tamale District shows that the enrolment for this exemption declined by around 76 percent between 2008 and 2011 (see Figure 6.1). A number of factors contributed to this. In many cases, some pregnant women did not enrol because they thought they did not need it, perhaps due to their high income. Such women often had private health insurance or preferred out-of-pocket healthcare payments, as these were deemed to offer better quality healthcare.

*“My husband works in the bank and so he has a private insurance which covers all of us. So we don’t need it [the exemption].... Also, private insurance is better when you use it in the hospital because they treat you well”* (Interview: Uninsured female respondent 083, middle class, urban resident)

Some uninsured pregnant women, particularly rural residents, also mentioned that they were constrained by high transaction costs associated with enrolling in the premium exception. This was because they could only enrol at the DMHIS office and with the medical certificate. Owing to a lack of healthcare facilities in most rural areas, coupled with the cost of travelling to the hospital and DMHIS office in the district capital, some rural women could not simply afford the costs and hence failed to enrol:

*“In this community we have no hospital; you have to go to the Old hospital [Tamale Central Hospital] in Tamale before you can get a certificate to enrol.... it is too expensive. When you go to Tamale [hospital] you have to spend the whole day before you can see a doctor and another day to register at the NHIS office.”* (Interview: Uninsured female respondent 039, poor, rural resident)

The transaction cost appeared to have created disparities in enrolment between rural and urban women. Hence, the exemption may have reinforced geographic inequalities in NHIS coverage among women.

### **6.2.5 Premium exemption policy**

Premium exemptions are an integral part SHI arrangements. According to Currie (2006), they are based on a traditional economic assumption that premium affordability is an important determinant of participation in an insurance scheme and therefore the poorest population would be excluded if they are not exempted from premium payments. The rationale for premium exemption may be explained from Rawls’ (1971) ‘maximin’ principle, which suggests the need for positive discrimination in resource distribution in favour of least advantaged social groups in order to promote equity. Based on the NHIS emphasis on equity (MOH, 2004), premium exemptions were provided to certain population groups deemed to be vulnerable and unable to pay. These included: elderly (70+), minors (under 18s), pregnant mothers, and indigents (core poor) (see box 1.1). While these exemption categories have equity implications, those

associated with pregnant mothers and indigents are particularly pertinent to the variations in the NHIS coverage. These are discussed below.

### ***Exemption for pregnant mothers***

The exemption for pregnant mothers was not part of the original NHIS policy; it was only introduced in 2008 and funded by the British Government (Witter *et al.*, 2013). It is not means-tested and eligibility is mainly dependent on producing a medical certificate<sup>24</sup> to confirm that an individual is pregnant.

Pregnant women have greater healthcare needs due to their pregnancy and therefore would be expected to enrol in the NHIS in greater numbers given the exemption. This may have contributed to the gender disparity in NHIS coverage. As shown in Table 6.1, in 2011, pregnant mothers accounted for nearly 13 percent of the total NHIS membership and about 22 percent of the total female membership in the Tamale District. However, the data also reveals that this exemption was not solely responsible for the gender difference and that even without it female enrolment is still consistently significantly higher than male since the introduction of the NHIS. In 2011, the exemption for pregnant women accounted for only 34 percent of the difference in enrolment between male and female in the Tamale District.

The majority of women respondents were generally content with the exemption. Most poor women appeared to have benefitted greatly from it, as demonstrated in their praise for it during the interviews and FGDs. Some women noted that they could not have afforded the NHIS premium without the exemption:

*“As far as I can remember, since I was born, it [the exemption] is the only good thing government has ever done to show that it cares about poor women.... If it was not for it I don't think I could have enrolled”* (Interview: Uninsured female respondent, poor, urban resident)

*“The exemption has helped our wives and daughters a lot. Now if they are pregnant they are given insurance which is good for their health... without the exemption it will be difficult to do the insurance for everyone in the family....I don't have the insurance but my*

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<sup>24</sup> This is a note from a certified healthcare provider to confirm that a particular woman is pregnant.

*wife has because of her pregnancy” ( FGD: Uninsured male participant, poor, urban resident)*

However, while the uptake of the exemption was generally high, coverage was not optimal. The enrolment data for the Tamale District shows that the enrolment for this exemption declined by around 76 percent between 2008 and 2011 (see Figure 6.1). A number of factors contributed to this. In many cases, some pregnant women did not enrol because they thought they did not need it, perhaps due to their high income. Such women often had private health insurance or preferred out-of-pocket healthcare payments, as these were deemed to offer better quality healthcare.

*“My husband works in the bank and so he has a private insurance which covers all of us. So we don’t need it [the exemption].... Also, private insurance is better when you use it in the hospital because they treat you well” (Interview: Uninsured female respondent 083, middle class, urban resident)*

Some uninsured pregnant women, particularly rural residents, also mentioned that they were constrained by high transaction costs associated with enrolling in the premium exception. This was because they could only enrol at the DMHIS office and with the medical certificate. Owing to a lack of healthcare facilities in most rural areas, coupled with the cost of travelling to the hospital and DMHIS office in the district capital, some rural women could not simply afford the costs and hence failed to enrol:

*“In this community we have no hospital; you have to go to the Old hospital [Tamale Central Hospital] in Tamale before you can get a certificate to enrol.... it is too expensive. When you go to Tamale [hospital] you have to spend the whole day before you can see a doctor and another day to register at the NHIS office.” (Interview: Uninsured female respondent 039, poor, rural resident)*

The transaction cost appeared to have created disparities in enrolment between rural and urban women. Hence, it may have reinforced geographic inequalities in NHIS coverage among women.

### ***Exemption for Indigents***

This exemption is supposed to be means-tested; therefore, the NHIS Regulation sets out proxy means-testing (PMT) procedures for identifying beneficiaries (i.e. indigents). Also, members of the Livelihood Empowerment Programme (LEAP), a cash transfer programme for the poor, are supposed to be automatically enrolled in this exemption category. The number of indigents that are enrolled in this exemption is very low compared with the estimated number of indigents in the Tamale District. In 2011, only 7 percent of the total NHIS membership in the district was enrolled as 'indigent', compared with around 29 percent of the population estimated to be living below the poverty line (US\$1.08 per day) (World Bank, 2011). It can be inferred that only around 6 percent of the poorest population in the Tamale District actually benefited from the exemption. The interview data revealed that only one-quarter of the poorest respondents (indigents) had benefited from the premium exemption.

The low uptake of this exemption seems to contradict with the expected utility theory which suggests that individuals will take up insurance when the benefits are higher than the cost. In light of the benefits of the NHIS and the fact that premiums constitute a huge component of the NHIS enrolment costs (see section 6.2.1), it would be expected that exemption from premium payment would lead most indigents to enrol in the NHIS. Based on the expected utility theory, the low coverage of the indigent population may be explained as due to high indirect costs of enrolment, which is probably higher than the premium. In the Tamale District, most of the indigent population lived in rural areas and incurred substantial cost to travel to the district capital to access information about the exemption and enrol:

*"They said I needed to go to Tamale [DMHIS] so that they will register me for free. But how do I get there when I don't have money to buy even food... to travel from her to Tamale you will need about GHs 5.00. Where I'm I going to get this? You don't even know if they will do it for you when you get there."* (Interview: Uninsured male respondent 091, poor, rural resident)

Such implicit costs prevented some indigents from enrolling in the NHIS despite the premium exemption. Thus, such individuals were more likely to enrol if the transaction cost was minimised by way of enrolment officers visiting their homes to assess and enrol them. Also, there were some indigents who were simply not interested in the NHIS because they perceived themselves not to have greater healthcare needs:

*“The health insurance is for people who are sick. Even though I am poor, thank God, I don’t usually fall sick.... so if I even register what would I use it for? Nothing”* (FGD: Uninsured male participant, poor, rural resident)

In addition, some indigents also failed to take up the exemption because they were simply unaware of it. As shown in figure 6.2, among the poor respondents, less than a quarter knew about the exemption for indigents:

*“I didn’t know I could enrol for free... the enrolment officer who comes to this community never informed us about the exemption. Those of us in the villages we can’t get this information unless we go to the town. But we don’t usually go there.”* (FGD: Uninsured male participant, poor, rural resident)

Although this problem was partly due to the shortcomings in the NHIS’ campaign and education programme (see section 6.2.4), it was also because the DMHIS deliberately did not inform people about the exemption because they feared that they would be inundated with too many exempt beneficiaries, which could undermine the financial sustainability of the scheme. Also the DMHIS was restricted by the NHIA on the number of indigents it could enrol in any particular year:

*“We don’t popularise it [exemption policy for indigents] because human beings are such that once the word free appears everybody will like to fall in that category to receive the NHIS for free.... Sometimes our hands are tied up because we have a quota we are allowed to exempt every year”* (Interview: Administrator, Tamale DMHIS)

Besides, there were other supply-side factors which contributed to the low uptake of the exemption. There were difficulties in implementing the PMT criteria the NHIS Regulation has set out for identifying and selecting indigents for the exemption. An effective implementation of PMT generally requires a comprehensive survey to profile the social and economic characteristics of households, which entails substantial resources (Aryeetey *et al.*, 2010). Owing to resource constraints, the DMHIS could not implement the PMT effectively. The identification of the exemption beneficiaries was mostly left to the discretion of the enrolment officers, which appeared to have created widespread exclusion of genuine indigents. There were a number of

the sampled uninsured respondents who appeared very poor but said they were disqualified for the exemption by enrolment officers:

*“I went there [DMHIS office] last year to see if they would do it for me for free, but they said I was not qualified. They did not tell me why I was not qualified.... But look at me here; I struggle to even get food to eat...”* (Interview: Uninsured female respondent 085, poor, urban resident)

Some enrolment officers mentioned that they were unable to effectively assess eligible beneficiaries due to insufficient information about the indigent population in the district. They also thought that the eligibility criteria were cumbersome and difficult to use. The reliance on staff discretion in deciding who is eligible for the exemption created a lack of clarity about how to access the exemption, which impacted negatively on enrolment.

*“It is difficult for us because you cannot assess how much people earn or their assets when you don’t know them properly. Some of them come from communities that I don’t even know. So obviously we cannot do the assessment the regulation sets out properly, and because of this some genuinely poorest people suffer the consequences.... Usually, we ask them [potential beneficiaries] some few questions about their social and economic life and just use our discretion to decide if they are qualified”* (Interview: enrolment officer, Tamale DMHIS)

Beyond the implementation issues, there appeared to be flaws in the design of the exemption policy, particularly the eligibility criteria. The NHIS Regulation defines an ‘indigent’ person as someone who meets the following criteria: (1) unemployed and without visible source of income; (2) does not have a fixed place of residence; (3) does not live with a person who is employed and has a fixed place of residence; and (4) does not have any identifiable consistent support from another person (GOG, 2004). These criteria were less effective in identifying indigents in the Tamale District due to factors discussed below.

Firstly, criterion 1 is problematic because there were many people who were employed as smallholder farmers and therefore were technically ‘employed’ and not qualified for the exemption, but yet were very poor and could not afford the NHIS premium. This was mostly the

case due to the erratic climatic conditions and short farming season in the district (see section 6.2.1):

*“Yes, I am a farmer but only for 5 to 6 months. My farm is very small and we eat almost everything we harvest. There is often nothing left to sell to enrol in the NHIS. If I get the chance I will enrol. The last time I spoke to the insurance officer to get him to enrol me for free, but he said I was not qualified.”* (Interview: uninsured male respondent 025, poor, rural resident)

Secondly, criterion 2 is also problematic because it assumes that an indigent is someone who is homeless. In Tamale District, most people live in intergenerational compound homes with their kinsmen. As a result, it was very uncommon for an individual to be homeless even when they were too poor to afford their own accommodation. Owing to the kinship residential arrangement in the district, an individual’s ability to house himself or herself was largely dependent on their kinship affiliation rather than financial ability. Therefore, homelessness was a weak criterion for identifying an indigent person in the Tamale District. Also, due to the extended family residential system, there were many cases where an unemployed poor person shared the same compound home with a better-off family member who supported them with food and other basic needs, but did not have enough money to pay for their healthcare needs.

In summary, the exemption for pregnant mothers enabled a greater number of women to enrol in the NHIS and thus contributed to the gender disparity in enrolment skewed towards women. While such disparity may not be necessarily bad (see section 6.3), the exemption may have reinforced geographic disparities in enrolment among women due to the high transaction cost of enrolment incurred by beneficiary women in rural areas. Moreover, although the exemption for indigents enabled some poor people to gain health insurance, it appeared not to have been effective at addressing socioeconomic disparities in enrolment due to flaws in the its design and implantation of the policy.

### **6.2.6 Other scheme implementation factors**

There were a number of other implementation issues that hampered the effective participation of certain individuals in the NHIS. First, the enrolment process (i.e. registration and renewal) was relatively costly for rural residents than urban residents and therefore limited the ability of

the former to enrol as much as the latter. Registration and renewal activities were mostly conducted in the DMHIS office in the district capital, which was quite far from most rural communities in the district. Thus, this increased the enrolment costs (including lost of man hours, and transportation cost) for rural residents. Although enrolment offices were set up in certain rural communities to register individuals, they were poorly resourced and had very limited functions as they could not renew membership nor enrol exemption beneficiaries. Also, community enrolment officers, who manned the registration post, did not have sufficient resources to undertake door-door registration in the remote areas of the district:

*“There are many people in the villages who want to enrol but they cannot leave their farms to go to the DMHIS office in Tamale... we the registration agents have a responsibility to visit them in their communities so that they can register but we’ve not been given the ‘tools’ to work with.... I used to visit the communities with my friends motorbike but now it is broken.... Now I just sit in the office and wait for them to come, which they don’t.”* (Interview: Community Registration Officer, Tamale DMHIS)

Thus, the direct and indirect cost associated with NHIS enrolment in remote rural communities was a strong disincentive for rural residents to enrol:

*“My card expired but I could not go to Tamale to renew it .... The cost is too much... you have to pay the premium fee plus the cost of transport. Sometimes when you go to the office you have to wait for the whole day before you can renew.”* (Interview: Uninsured female respondent 045, middle class, rural resident)

Some respondents reported that they were uninsured due to delays in the issuance of their NHIS membership card. The enrolment process required registered individuals to wait for three months before they could get their cards with which they access the NHIS healthcare services. But in some cases the membership cards got excessively delayed or lost. Many respondents reported that they did not receive their cards within the stipulated three-month period. This was mostly a common source of dissatisfaction, which discouraged some individuals from enrolling.

*“I don’t want to do the health insurance because when you register it can take about 6 months before you get your membership card.... My wife registered several times but*

*she never got her card.*" (Interview: Uninsured male respondent 016, middle class, urban resident)

Most rural residents often experienced longer delays in receiving their NHIS card compared to urban residents. This was because when the membership cards finally arrived at the DMHIS office, those who live in remote rural areas had to wait until an enrolment officer was visiting their community before they could get it. In some cases, it was several months before an enrolment officer visited certain communities. Much of the delays in the issuance of the membership card was due to the inadequate and poorly trained data processing staff, perennial power outage and computer problems, and the centralisation of card processing which meant that the membership cards could only be issued at the national capital (Accra):

*"There has never been a week that the computers would not break down. Sometimes there is a light off [out] and so you cannot send the data to Accra... I think another reason for the problem with the cards is that we have only a few people who process the information... most of them are on attachment [interns] and they don't know much"* (Interview: Administrator, Tamale DMHIS)

Some respondents, mainly formal sector workers, reported that they could not enrol in the NHIS due to long delays in registration at the DMHIS office as well as inconvenient opening hours of the DMHIS office. As a public institution, the DMHIS office operated the same opening hours as all other formal institutions in the district (i.e. 8am to 5pm). Therefore, formal sector workers who had busy schedules often could not find time to go to the DMHIS office to register or renew their membership cards:

*"... I just haven't got the time to go and register. As you can see I am a very busy man. The only days I have time is Saturday and Sunday, but the DMHIS office is closed on those days"* (Interview: Uninsured male respondent, middle class, urban resident)

This finding is consistent with that of Jehu-Appiah *et al.* (2010) who found that the characteristics of the NHIS such as convenience of card collection, location of registration office, and opening hours have strong influence on enrolment.

### 6.2.7 Availability and quality of healthcare services

As a healthcare financing scheme, one of the primary reasons why people insured in the NHIS is to be able to access needed healthcare services. Therefore, it would be expected that the availability and quality of healthcare services of an insurance scheme would have greater influence on enrolment (De allegger *et al.*, 2006; Dong *et al.*, 2009). Thus, it was not surprising that individuals' perception about the availability and quality of NHIS healthcare services influenced their decision to enrol in the NHIS. However, what was most interesting was that there were socioeconomic and geographic variations in terms of the healthcare variable (i.e. healthcare availability and healthcare quality) which influenced enrolment decisions.

The extent of the availability of healthcare was found to be a key determinant of enrolment among low income and rural households. This was primarily because low income households were mostly motivated by the immediate healthcare benefits of the NHIS (see section 6.2.2). Therefore the ability to access NHIS healthcare services had significant influence on their perception about the value of the NHIS, and whether to enrol or not to enrol. The majority of rural uninsured respondents mostly alluded to the lack of healthcare facilities in their community as a key reason why they did not insure:

*“Health insurance does not make any difference for us. If you have it and there is no hospital, of what use is it? It is waste of money... I think if we had a hospital here most of us would have enrolled”* (FGD: Uninsured male participant, poor, rural resident)

Most of the NHIS facilities were based in the CBD and therefore increased both the direct and indirect cost of accessing healthcare by NHIS members who were based in rural areas. This was a disincentive for many rural residents to enrol because they perceived the cost of the NHIS to be higher than the benefits:

*“...there is no hospital in this community. Those who have health insurance travel to Tamale when they are sick... Sometimes some people cannot go to the hospital because they have no money to afford the transport fare.... [Because of this] it is a waste of money to enrol in the NHIS.”* (FGD: Uninsured male participant, poor, rural resident)

The most common healthcare facilities in rural areas were health centres and private drugstores. Although most of the health centres provided NHIS services, some of the services were available in the private drugstores at an out-of-pocket cost. Many rural respondents acknowledged that they preferred the drugstores to the mainstream healthcare facilities that provided NHIS services (see section 9.2). Thus, due to the cost of accessing NHIS healthcare services, some rural residents found it more rewarding to remain uninsured as they could access healthcare services cheaply from the private drugstores.

*“I can get most of the treatment from the drugstore. They are very quick and cheap, so I will not waste my time on health insurance because it will mean that I have to travel all the way to Tamale to access care when I am sick”* (Interview: Insured female respondent 023, middle class, rural resident)

Schneider (2004) has argued that low income households are unlikely to insure in an insurance scheme if the benefit services that it provides can be obtained at a cheaper cost and better quality from other alternative arrangements. It appeared the transaction cost of accessing minor healthcare services was higher for insured members than uninsured members in rural areas. Thus, based on the expected utility theory, it is understandable that some rural residents preferred to remain uninsured than to insure. An improvement in the availability of healthcare services in rural areas could change the perception of rural residents about the value of the NHIS, and thus motivate them to enrol.

However, unlike poor and rural respondents, enrolment and renewal decisions among well-off and middle class respondents was mainly influenced by their perception about the quality of the NHIS healthcare. Some of these respondents often failed to renew their membership because they perceived the quality of NHIS healthcare to be poor. As a result, they often preferred to pay out-of-pocket for healthcare or insure with private insurance providers, which were perceived to render quicker and better services.

*“I prefer cash-and-carry to the health insurance because if you have health insurance the doctors don’t check you properly. You wait in the queue for too long. But if you have to pay by cash they do things for you quickly... that is why I did not register [in the NHIS].”* (Interview: Uninsured male respondent 065, middle class, urban resident)

Similar findings have been noted by other studies on the NHIS in Ghana (Jehu-Appiah *et al.*, 2010) and SHI schemes internationally (Dong *et al.*, 2009; Basaza *et al.*, 2008).

Thus, the inadequate availability of healthcare facilities accounted for some of the geographic disparities in enrolment. This is because it increased the transaction cost of accessing NHIS healthcare services and therefore made NHIS membership relatively less beneficial compared with other sources of healthcare in rural areas.

### **6.2.8 Summary of the determinants of NHIS enrolment**

The evidence in the above sections shows the socioeconomic and geographic disparities in NHIS enrolment in the Tamale District were influenced by differences in the *willingness* and *ability* to enrol in the NHIS among the social groups. These factors were shaped by individuals' personal and community attributes as well as scheme design and implementation factors – what the behavioural model calls enabling factors (see section 3.1.1.1).

The willingness to enrol is largely a behavioural factor and was influenced by individuals' perception about the value of the NHIS. The conventional economics theory holds the view that an individual's desire to enrol in an insurance scheme depends on if they perceive the benefits of coverage to outweigh the cost (Currie, 2006). In SHI, the assumption has often been that individuals would readily take up health insurance due to the relatively 'low' premiums. But such an assumption seems flawed by the fact that they often do not take into account the indirect cost of enrolment, which is sometimes greater than the direct cost (premiums). The evidence in this thesis suggests that even though individuals' willingness to enrol in the NHIS is influenced by cost benefit analysis, their perception of enrolment cost is not limited to just the premium but also the indirect cost.

Low income and rural households were less willing to insure in the NHIS partly because they perceived the NHIS to be more costly and less beneficial. Low income households found the NHIS costly because the opportunity cost of enrolment was higher due to their severe budget constraints. They also were generally more likely to perceive the NHIS to be less valuable because they could not properly evaluate its full benefits due to poor knowledge about the NHIS. The availability of informal social protection arrangements to deal with health shocks

crowded out the value of the NHIS. Also, low income individuals' misperception about their health risk was another reason why they accorded less value to NHIS. These factors culminated into some low income individuals to make a decision not to enrol in the NHIS.

Among rural residents, the lack of enrolment and healthcare facilities in rural areas created high transaction cost of enrolment in the NHIS, and predisposed rural residents to perceive the health insurance as more costly. This also led them to perceive it to be less beneficial, particularly given that they could address some of their healthcare needs in local drugstores at a relatively cheaper cost.

The *ability* to enrol in the NHIS was primarily influenced by the capacity of individuals to afford the enrolment costs and participate effectively in the NHIS. Low income individuals were relatively less able to enrol due to income constraints. The exemption policy which should have alleviated the effect of these financial constraints on enrolment was mostly ineffective. Another factor which affected the ability to enrol was poor knowledge about the NHIS, which affected low income individuals' ability to effectively participate in the NHIS. They were particularly ill-informed about the NHIS due to high illiteracy and the failure of the DMHIS to adapt its education programmes to the needs of the illiterate population. Therefore, poor people were less able to enrol and maintain their membership in the NHIS.

Thus, there were disparities in the NHIS coverage mainly because low income households (including informal sector workers) and rural residents were relatively more predisposed to have low willingness and low ability to enrol. This suggests that bridging the disparities in coverage will require greater efforts to: reduce household income constraints, minimise the transaction cost of enrolment and accessing of NHIS care, and improve individuals' knowledge around the details and operation of the NHIS.

### **6.3 Assessing the equity/inequity nature of NHIS enrolment in Tamale District**

The discussion in this chapter so far shows the presence of inequalities in NHIS enrolment associated with socioeconomic, occupation, gender and geographic attributes. However, such disparities alone do not necessarily represent the presence of inequities. Based on the definition

of equity adopted for this thesis (see section 4.1.3), an equity decision can be made by first determining whether the disparities in enrolment are *systematic*. This is ascertainable based on the extent to which the disparities are *substantial* and *consistent*. The latter is difficult to ascertain due to the lack of adequate and disaggregated data on NHIS enrolment to analyse the trend of the disparities over a long period of time. However, data from both the primary and secondary sources suggest that the enrolment disparities were *substantial* and are mostly skewed against socially disadvantaged groups (see section 6.1). In other words, enrolment among low income households, rural residents, informal sector workers and males were markedly lower than those of their counterparts in the same social group. Almost all these groups, except males, have been identified to be relatively least advantaged within their respective social group. Thus, the fact that membership in the NHIS is skewed against socially disadvantaged groups suggest that NHIS enrolment in the Tamale District is largely inequitable.

However, the relatively lower enrolment by males can hardly be considered as inequitable because males are noted to be relatively more privileged within the power structures of society compared with females, particularly in the Tamale District (see section 5.1). Therefore, the gender disparity in enrolment is not inequitable. This interpretation was supported by the responses of the majority of respondents, who perceived the gender disparity not to be unfair. Most respondents were of the view that women have greater healthcare needs and therefore needed to have greater chance of enrolling in the NHIS:

*“Women are very vulnerable and fall sick frequently. They rely on us men for support so if they happen to enrol more than us that is fine. That is good for us all.”* (FGD: Uninsured male participant, middle class, urban resident)

This view is consistent with Braveman and Gushkin’s (2003) suggestion that perception of inequity is influenced by individuals’ notion about which social group is disadvantage within the existing power relations.

The ‘inequity’ of the disparities in enrolment is further supported by the nature of factors that shaped those disparities (see section 6.2). Based on Andersen’s (1995) notion of ‘mutability of causes’, equity can be evaluated based on the extent to which the key causes of the disparities in enrolment could have been prevented or minimised by policy intervention. The presence of a high degree of scope for addressing the causes of a disparity suggests the presence of

inequities. As discussed in section 6.2, the disparities in enrolment were shaped mainly by income constraints, lack of information about the NHIS, misperception about health risk, NHIS design and implementation issues, and poor availability and quality of NHIS healthcare services. Most of these factors could have been alleviated through policy intervention and therefore the fact that they were left to create the disparities in enrolment suggests such disparities are inequitable.

In the case of the socio-economic disparities, it emerged that low income households' lower ability and desire (motivation) to enrol in the NHIS was mainly due to lower income, poor knowledge about the NHIS as well as misperception of their health risk. Although there were some behavioural dimensions to these problems, it appears they could have been alleviated by policy intervention. The creation of job opportunities could have minimised the income constraints on low income households, which could have in turn reduced the opportunity cost of enrolment and allow them to prioritise health insurance. Also, the provision of flexible premium payment modalities could have minimised the effect of premium payment on low income households and enable them to enrol. In addition, the shortcomings of the exemption policy for indigents could have been addressed to enable greater enrolment among low income households. The misperception about health risk could also have been minimised through effective public education about health risks.

Also, the occupational disparities in enrolment were mainly due to the fact that informal sector workers were required to pay a yearly premium against a backdrop of low and unreliable income. Many informal sector workers were engaged in subsistence agriculture and therefore were faced with precarious income, and an inability to keep up with the premium payment. However, this problem could have been mitigated if the NHIA had planned enrolment to coincide with the harvesting season or make it possible for premiums to be paid in kind and piecemeal form.

In terms of geographic disparities in enrolment, it was largely due to most rural residents being engaged in informal sector jobs as well as low incomes and education which resulted in low willingness and ability to enrol. But equally significant were supply-side constraints such as the lack of adequate enrolment resources and healthcare facilities in rural areas created high transaction cost of enrolment and in accessing NHIS care for rural residents. These constraints could have been addressed by the NHIA and the Ministry of Health.

Thus, based on Braveman and Gushkin's (2003) equity definition and Andersen's (1995) concept of 'mutability' it can be assumed that NHIS enrolment in the Tamale District is inequitable. This finding is consistent with those by Brugiavini and Pace (2010), Jehu-Appiah *et al.* (2011a) and Asante and Aikins (2008) which were conducted in other parts of Ghana.

## 6.4 Conclusion

The data and analysis here suggest that NHIS coverage in Tamale District is inequitable because enrolment is significantly skewed against socially disadvantaged groups, specifically low income individuals, rural residents, informal sector workers. The key determinants of these disparities such as income constraints, lack of information about the NHIS and under-provision of NHIS and healthcare resources could largely be addressed by policy intervention. This finding is broadly consistent with some studies in other parts of Ghana which found pro-rich enrolment patterns in the NHIS (Asante and Aikins, 2008; Jehu-Appiah *et al.*; 2011b).

An important finding from the fieldwork is that a relatively high proportion of women are enrolled in the NHIS, despite the marginalisation of women in the District. This diverges from a study by Brugiavini and Pace (2010) which found that Mole-Dagomba (the dominant ethnic group in the Tamale District) women are less likely to insure in the NHIS due to their low education and high level of deprivation. Although some supply-side factors, such as premium exemption, contributed to the relatively high enrolment among women, women's pro-insurance attitude and adverse selection at the household level contributed to the gender disparity.

The findings here suggest that inequities in enrolment are shaped by a number of supply-side factors, particularly: the amount and collection modalities of the premium; the design and implementation of exemption regulations; education and information on the concept and terms of the NHIS; provision (or the lack of it) of adequate enrolment and healthcare resources in rural areas. The findings also point to the significance of a number of behavioural factors in determining individuals' willingness to enrol, including expectations about the benefit of the NHIS relative to the cost. Such cost-benefit analyses are influenced by the social, economic, health condition and literacy of individuals as well as the NHIS design and implementation

features. The complex interaction between individual and scheme factors in shaping individuals' decision on insurance uptake is critical to explaining inequities in the NHS.

## Chapter 7: Effects of the NHIS on the affordability of healthcare

### 7.0 Introduction

The previous chapter showed how the NHIS has impacted on individuals' ability to obtain health insurance. The conventional assumption is that insurance coverage would automatically lead to insured individuals being able to afford healthcare services that they needed. However, studies have suggested that health insurance membership does not automatically guarantee financial access to healthcare (Wagstaff and Lindelow, 2008). Therefore, the primary purpose of this chapter is to examine the effects of the NHIS on the affordability of healthcare by insured members.

There is no standard definition of healthcare affordability. One of the commonly used definitions is the utilisation approach, which measures affordability in terms of the level of use of a particular healthcare service (Gertler and van der Gaag, 1990). This suggests that if an individual is able to use a particular service then it means that they are able to afford it. Russell (1996) has criticised this approach on grounds that healthcare utilisation is determined by several factors other than just the cost, including perception about the availability and quality of healthcare. Hence, the approach does not properly reflect individuals' ability to afford healthcare. In addition, Le Grand (1991) argues that the utilisation approach does not take it account the sacrifices that certain individuals or households often make in order to use a healthcare service. Based on these, Russell (1996) proposed the *opportunity cost* approach which defines affordability as when the cost of accessing healthcare is not deterred by financial barriers or leads to a reduction in investment and consumption of essential goods below minimum needs. This approach seems more holistic than the utilisation approach because it allows for affordability to be nuanced in order to reveal latent financial constraints that affect healthcare utilisation as well as the social and financial consequences of healthcare expenditure.

This chapter is based on the opportunity cost approach and examines affordability in terms of changes in insured members' financial ability to use healthcare and healthcare related catastrophic expenditure.

## 7.1 Financial ability to use healthcare

The effect of the NHIS on individuals' financial ability to use healthcare primarily depends on the extent to which it leads to a reduction in the cost of accessing care, which is examined later in 7.1.1. Insured respondents were asked of their perception about changes in their financial ability to use healthcare after enrolling in the NHIS. The results of their responses are shown in Table 7.1 below.

**Table 7.1 Perception of the effect of the NHIS on the financial ability to use healthcare by insured members.**

	Ability to pay for outpatient care			Ability to pay for inpatient care		
	Improved (%)	Remained same (%)	Worse (%)	Improved (%)	Remained same (%)	Worse (%)
<b>Socioeconomic group</b>						
Well off	28.6	71.4	0.0	63.4	28.6	8.0
Middle	40.0	60.0	0.0	60.0	28.0	12.0
Poor	92.9	7.1	0.0	76.6	13.4	10.0
<b>Total</b>	<b>53.9</b>	<b>46.2</b>	<b>0.0</b>	<b>66.7</b>	<b>23.3</b>	<b>10.0</b>

Source: Author's construct based on interview data

There was a general sense among the majority of insured respondents that the NHIS had improved their financial ability to use healthcare. This seems obvious given that the NHIS covered the out-of-pocket cost of most health conditions and medicines in Ghana, which individuals had paid under the erstwhile user fees system (i.e. cash-and-carry). Also, the risk sharing nature of the NHIS appeared to have led to a reduction in the price of healthcare services for insured members due to the collective contribution by members of the NHIS. In addition, the NHIS prepayment principle meant that insured persons made contributions

towards healthcare cost (premium payment) only when they were in a relatively better position to afford it; and not when they were ill and likely to have low income:

*“The NHIS is very good because you pay it [premium] when you have money... there is less pressure on you.... First I used to spend about GHs300 on medical bills for my family. It was very hard for me whenever any of us was ill. Sometimes I had to borrow money. But now because of the health insurance it costs me less than a quarter of what I used to pay, and I pay it [premium] when I can.... We are now in a better position to use healthcare when we need it.”* (Interview: Insured male respondent 055, poor, urban resident)

There were socioeconomic variations in respondents' perception of the effect of the NHIS on the financial ability to use healthcare. An overwhelming majority of the poor respondents were of the view that they had experienced improvement in their financial ability to use both inpatient and outpatient care. This contrasted with the majority of the middle class and well-off respondents who thought they had not seen much change in their ability to pay for outpatient care; rather, they acknowledged they were in a better position to afford inpatient care. These variations appeared to have been largely due to the relative financial ability of the socioeconomic groups to afford healthcare before the NHIS. The cost of outpatient service was relatively small and therefore most well-off and middle class individuals were able to afford it prior to the NHIS. As a result, the NHIS had only marginal or no effect on their financial ability to use such services. This was different with low income individuals, whom even smaller outpatient charges were enough to prevent them from using healthcare. However, some expensive inpatient services were, indeed, often a potential source of financial strain on all the socioeconomic groups. Hence, there was a general view by all the insured respondents that the NHIS had improved their financial ability to use inpatient healthcare services. The following views by respondents illustrate the reason for the socioeconomic differences:

*“The cash-and-carry was very cruel. When you went to hospital they wanted you to make a deposit before you could see a doctor... sometimes if you did not have money you were sent home.... But with the NHIS you don't have to pay any money to see a doctor, it is free.... It has helped us so much”* (FGD: Insured female participant, poor, rural resident)

*“... The NHIS is good, but to be honest I haven’t seen any changes because those charges [for OPD care] were not a problem for me. The only problem was if you or your family had a major health problem.... Recently, my wife had a caesarean and the bill was very high, but thank God we had health insurance so we did not pay a penny. If she didn’t have health insurance it would have been a disaster.”* (Interview: Insured male respondent 002, middle class, urban resident)

The socioeconomic differences in the financial ability to use healthcare underscores the importance of considering the needs of various socioeconomic groups in constituting the benefits package. This would ensure that it covers both expensive and inexpensive healthcare services which would effectively encourage different socioeconomic groups to enrol in the NHIS.

As a manifestation of an increased in the financial ability to use healthcare due to the NHIS, most insured respondents said they were now able to use healthcare services without been prevented by financial constraints. Most insured poor respondents mentioned that prior to the NHIS they mostly relied on friends and family relations to pay off their medical bills, but noted this had substantially reduced since obtaining NHIS membership. In line with this, many well-off and middle class participants also acknowledged a decline in the number of request from relatives and friends for financial support to pay their medical expenses:

*“These days you hardly find anybody coming to ask you for money so that they can go to the hospital or somebody asking you to make a contribution in order to discharge a family member from the hospital.... Even in the radio, you no longer hear appeals for financial help for somebody to undertake a medical operation.... so the NHIS has helped us all [poor and rich]”* (FDG: Insured male participants, middle class, urban resident)

Thus, there was a general sense among all socioeconomic groups that the NHIS had improved the financial ability to use healthcare. This improvement was largely due to a reduction in the direct cost of healthcare by the NHIS. This finding is in line with those of Nguyen *et al.* (2011) and Mensah *et al.* (2010) who both found the NHIS to have improved financial access to healthcare in other parts of Ghana.

### 7.1.1 Cost of healthcare under the NHIS

There are two types of costs involved in accessing healthcare: direct and indirect costs. The most common example of direct costs is out-of-pocket payment (e.g. consultation fee, diagnosis test fees, medicine charges and unofficial payments) and transportation costs. Indirect cost refers to the resources forgone (i.e. opportunity cost) as a result of direct costs expenditure on healthcare (McIntyre *et al.*, 2009). The indirect cost is mostly manifested in the form of catastrophic social and economic consequences on an individual or a household. This thesis found that the NHIS appears to have impacted on both the direct and indirect costs of healthcare.

In line with the view on improvement in the financial ability to use healthcare, the majority of insured respondents thought that out-of-pocket healthcare payments had reduced (see Table 7.2). They alluded particularly to the cost of drugs, consultation, diagnosis and surgery as areas where they had seen substantial reduction. This is consistent with studies by Mensah *et al.* (2010) and the Health System 20/20 (2009) in Ghana which found significant reduction in the out-of-pocket payments of households as a result of the introduction of the NHIS. However, surprisingly, about a quarter of the insured respondents in this study thought that out-of-pocket expenditure had either remained the same or increased since enrolling in the NHIS (See Table 7.2).

**Table 7.2 Perception of the effect of the NHIS on the cost of healthcare by insured respondents**

<b>Socioeconomic group</b>	<b>Reduced (%)</b>	<b>Remained same (%)</b>	<b>Increased (%)</b>
Well-off	71.5	14.3	14.3
Middle class	70.0	20.0	10.0
Poor	64.3	21.4	14.3
<b>Total</b>	<b>67.6</b>	<b>18.6</b>	<b>12.9</b>

Source: Author's construct based on interview data

One of the key sources of out-of-pocket expenditure among insured members was the cost of uncovered healthcare services and medicines. Across the interviews, about one in every five respondent acknowledged that at least one of the services or medicines that were prescribed to them during their last visit to a healthcare facility was not covered by the NHIS. The NHIS benefits package excludes some expensive medical treatment such as cancer, organ transplant, dialysis and HIV antiretroviral drugs (See Box 1.1). These caused high out-of-pocket expenditure for insured members who suffered from such conditions:

*“People say the health insurance has helped them, but not for me. I was seriously ill last year, it was a kidney problem. I was in the hospital for about two months. The health insurance did not cover any of the cost and so we spent a lot of money. If it hadn’t been for my children, who contributed to pay the bill, I couldn’t have afforded it”* (Interview: Insured male respondent 098, middle class, urban resident)

Some respondents were also of the view that the NHIS had led them to incur greater healthcare costs because it made them to discover certain health conditions that were not covered NHIS which they had to pay for:

*“Now we go to the hospital because of health insurance. But sometimes the doctor checks you and asks you to do a particular test or buy a particular drug... Sometimes you don’t feel sick but because it’s the doctor telling you to seek treatment you feel you must do something about it [seek treatment]. Sometimes you wish you did not go to see the doctor because the drugs/services are too expensive.”* (FGD: Insured male participant, urban resident)

Ekman (2007) has argued that health insurance has the potential to increase out-of-pocket payments because it often provides financial access to initial entry into the healthcare system but often fails to protect individuals against all the treatment costs once they are in the system. He further argued that health insurance could lead members to seek modern and expensive healthcare which may not be covered by the insurance scheme. Some insured respondents were of the view that some doctors deliberately prescribed medicines that were not covered by the NHIS so that patients could purchase them from private providers that the doctors had colluded with. Although these views were denied by the healthcare providers, it was true that

many doctors had their own private drugstores and clinics which they could potentially refer patients.

Another significant source of healthcare expenditure for insured members was the cost of transportation to access NHIS care, as these were not covered by the NHIS. Such costs appeared marginal but its effects were particularly strong for rural residents and low income households. The average return fare to a healthcare facility within the Tamale District was around GHs2.00 (US\$0.90) for urban residents. But this was higher (e.g. around GHs 4.00, or US\$ 1.80) for remote rural residents due to most NHIS healthcare providers being located in urban areas (see section 8.1.2.1). Some insured rural respondents reported being deterred from accessing healthcare by such transportation cost:

*“I have [NHIS] insurance but I have never used it.... It is not because I don't fall sick, I do, but there is no hospital in this village and I have no money to take a taxi to Tamale. As you can see [because I am physically disabled] I cannot ride a bicycle....”* (Interview: Insured male respondent 001, poor, rural resident)

Most facilities did not have ambulance services; as a result, during medical emergencies patients paid to be transported in private vehicles (e.g. taxis) to the hospital.

Some respondents also mentioned about the prevalence of informal payments in most facilities. One of such payments was *chibo lagri* (literally translated as ‘soap money’), which pregnant women paid to midwives after delivery. Although these payments were not compulsory, many women said they often felt obliged to pay them even when they could not afford them.

*“... I had caesarean two years ago, and they [midwives] asked me to pay.... I was surprise because I had health insurance.... they told me it was soap money for the midwives.... We did not have any money so my husband went home to borrow GHs10 to pay”* (Interview: Insured female respondent 004, poor, rural resident)

Unlike low income households who found informal payments to be burdensome, such payments enabled middle class and well-off individuals to establish reciprocal relationship with health workers in order to improve their healthcare experience. Many well-off respondents mentioned that they often offered gifts to healthcare workers as an appreciation for helping them in the

hospital. As a result, many healthcare workers often looked out for well-off patients in order to assist them and earn a tip. Such supports ranged from the healthcare worker performing their normal duties in a friendly manner (i.e. not being rude) to enabling the patient jump a queue to see a doctor quickly. This enabled well-off patients to better their healthcare experiences at the expense of low income patients. A female respondent recounted her experience of informal payments which underscores this point:

*“...the nurse helped me a lot when my son was admitted here. After he was discharged I felt I needed to give her something. I went back a week later and gave her some yams and a guinea fowl.... It was a bit expensive, but it is ok. I did it from the bottom of my heart.... Since then any time I went to the hospital she helped me to see a doctor quickly.”* (Interview: Insured female respondent 018, middle class, urban resident)

In sum, even though the NHIS generally reduced out-of-pocket payments, insured members were still exposed to some direct costs which often constrained their ability to access NHIS care. These costs sometimes had catastrophic consequences on insured members, particularly low income households. The next section examines the catastrophic effects of healthcare costs under the NHIS and the coping strategies used by insured members to deal with them.

## **7.2 Catastrophic healthcare expenditure**

The concept of catastrophic healthcare expenditure denotes medical expenditure that has impoverishing consequences on an individual or a household (Wagstaff, 2008). It is very common in user fees systems, including the cash-and-carry system which preceded the NHIS. Thus, it was a key objective of the NHIS to protect households from experiencing catastrophic healthcare expenditure by reducing out-of-pocket payments (MOH, 2007). Catastrophic healthcare expenditure has been defined by Xu *et al.* (2003) as out-of-pocket medical expenditure which is equal to or more than 40 percent of household capacity to pay (i.e. effective income less subsistence expenditure) (see section 3.1.2). The idea being that anything above the 40 percent threshold could force a household to sacrifice on the consumption of wellbeing-enhancing goods. However, Xu's definition has been criticised by Van Damme *et al.*, (2003) for not taking into account certain indirect costs associated with healthcare such as interest payments on borrowings and the vulnerability that result from the sale of productive

assets to pay for healthcare. They noted that the definition is likely to underestimate the actual severity of healthcare expenditure on households, and suggested the need to focus more on the actual effects of healthcare cost on individuals and households rather than just the amount of the cost itself. This approach is similar to Russell’s (1996) opportunity cost approach.

To assess the extent to which the NHIS reduces financial hardships, catastrophic healthcare expenditure was in this study proxied by healthcare spending that result in an insured individual or household having to sell-off their assets, borrow money, or reduce the consumption of essential household goods in order to pay. This approach is consistent with Russell’s (1996) definition of affordability as the opportunity cost of healthcare expenditure, and also captures the variations in the impact of healthcare expenditure on different socioeconomic households.

**Table 7.3 Perception of insured respondents about the effect of the NHIS on catastrophic healthcare expenditure**

<b>Socioeconomic group</b>	<b>Reduced (%)</b>	<b>Remained same (%)</b>	<b>Increased (%)</b>
Well-off	57.2	42.9	0.0
Middle class	80.0	10.0	10.0
Poor	57.1	21.4	21.4
<b>Total</b>	<b>64.5</b>	<b>22.6</b>	<b>12.9</b>

Source: Author’s construct based on interview data

Using this proxy, insured respondents were asked about the extent to which the NHIS had impacted on their experience of catastrophic healthcare expenditure. As expected, due to the reduction in out-of-pocket payments, the majority of the respondents were of the view that catastrophic healthcare expenditure had reduced since enrolling in the NHIS (See Table 7.3). Apart from the decrease in out-of-pocket payments, some insured respondents mentioned that they no longer sold their assets to pay up their medical bills:

*“First we used to suffer a lot because at every particular time somebody in this family was sick and had to go to the hospital. There were times that I sold my goats to pay off medical bills. Now I have no assets left.... But we have health insurance, and so maybe we will not need to sell anything anymore.... Since last year [when we have been*

*insured] we have not sold anything to pay the medical bills... everything has been covered by the NHIS” (Interview: Insured male respondent 097, middle class, rural resident)*

This finding is in line with Nguyen *et al.*, (2011) who found significant reduction in catastrophic out-of-pocket expenditure among households in Nkoranza and Offinso districts in Ghana due to the NHIS. They attributed their findings to a reduction in direct out-of-pocket payments for healthcare services which is similar to what was found in this thesis. In Tamale District, it appeared most people’s perception about the severity of healthcare expenditure was mostly based on difficulties and sacrifices they put up with in order to pay such cost rather than just the amount of the cost itself. This was partly because they mostly regarded good health as extremely essential and thus were prepared to pay any amount in order to achieve one:

*“Illness is part of life. And even if you have to pay a million to get your health back it is worth it. The problem is when you are asked pay a lot when you don’t have anything.... Sometimes I am forced to cut here and there or borrow before I can pay the medical bills.... this is what make life very difficult.” (FGD: Insured male respondent, middle class, urban resident)*

However, some respondents also thought the level of catastrophic expenditure had either remained the same or increased since enrolling in the NHIS. These respondents mostly alluded to the cost of medicines and diagnostic services that were not covered by the NHIS benefits package as the cause of such catastrophic expenditure.

*“The health insurance has helped me so much, but sometimes I still experience financial problems.... I go to the hospital to check my blood pressure and diabetes every month. Most of the time the doctor will give me some drugs for free and then asks me to buy some two others which cost about GHs 100. It is always difficult for me to buy them, only God knows how I manage to do it ....” (Interview: Insured male respondent 016, poor, rural resident)*

The reported increase in catastrophic spending by some (albeit, a few) of the insured respondents is significant, especially given the depth of the NHIS’ coverage. Perhaps, this is an indication that the NHIS is limited in terms of the extent to which it covers the healthcare needs

of the population. This suggests that despite its potential to reduce out-of-pocket payments, the NHIS did not eliminate catastrophic healthcare expenditure altogether. This finding is slightly similar to those by Wagstaff and Lindelow (2008) who found a public health insurance programme in China to have increased catastrophic healthcare expenditure, which they attributed to an increased in the use of costly healthcare services that were not covered by the insurance scheme.

### **7.2.1 Coping strategies for catastrophic healthcare cost**

Insured respondents who mentioned that they had experienced catastrophic healthcare expenditure were asked about how they dealt with it. Figure 7.1 illustrates the different strategies that they used. These included: savings and assets sale, support from family and friends, borrowing and loans, 'facility shopping' and abandonment of treatment, and changes to household expenditure.

#### ***Savings and asset sale***

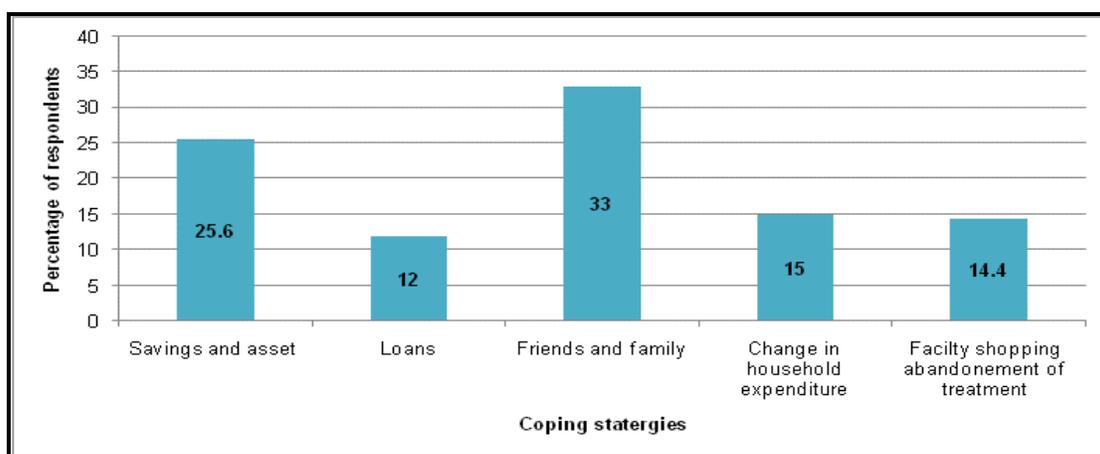
Some insured respondents mentioned about drawing on their savings, including cash and food stores such as millet, corn, and rice to pay off high healthcare cost. Bank savings were less popular despite the availability of banks in the urban areas of the district. Rather, most people saved with microfinance institutions, locally called *adaashe* or *susu*, as a form of social security. This form of savings was sometimes not particularly useful for dealing with healthcare costs because individuals could only access their savings at the end of the month and therefore could not easily draw on them during *sudden* health shocks. Cash savings were mostly the first option households considered to pay off high healthcare bills, but when this was not available they often resorted to the sale of livestock and food stores respectively. It was also common for women to invest their savings in cloths and cooking utensils as a form of financial security. But these and other durable goods such as furniture and home appliances were mostly the last to be sold to deal with a financial problem. This is because the sale of such items was deemed to be likely to expose the household's financial problems to the whole community.

Most people thought spending their savings on healthcare was not a problem because the savings were held for such eventualities. However, Russell (1996) has argued that the use of savings and assets to pay off healthcare costs could undermine household's economic security and increase its vulnerability. This was quite common among some respondents as they

mentioned that due to the sale of their assets (e.g. bicycle and motorbikes) they were less able to commute to the farm or market. Others were also concerned that if they were faced with financial difficulties in the future they were less able to deal with it:

*“My wife was sick but unfortunately they said the health insurance did not cover her sickness. I had to sell my motorbike to get her the treatment... I am a business man and I travel to remote villages to buy cereal for sale. It was the motorbike I used to travel around. But now I don't have it and so I am not able to do my business as much as I used to”* (FGD: Insured male participant, middle class, urban resident)

**Figure 7.1 Coping strategies for dealing with catastrophic healthcare cost by insured members.**



Source: Author's construct based on interview data.

### ***Support from friends and family***

Some insured respondents also said they relied on the generosity of friends and family members to pay high healthcare costs that were not covered by the NHIS. Such supports were usually in the form of donations rather than loans, and were mostly sanctioned by societal values of reciprocity. The widespread extended family system made such relational supports popular options for dealing with high healthcare expenditure. Social relations among kinship members were arranged such that members contributed to support other members who faced financial distress (see section 6.2.3).

*“Usually when the cost [of healthcare] is too much I asked for help from my uncle. Other times, I have one of my cousins in Accra, I will ask him to send me money....”* (Interview: Insured male respondent 016, poor, rural resident)

*“... I am not a family person. There is no single person in my family who is better off and able to help. So when I have any financial problems there is no family member to turn to. The last time I was asked to do some [medical] test, I did not have money. It was my friend who paid it for me.”* (FGD: Insured male participant, middle class, rural resident)

Not only were friends and family members instrumental in paying high medical bills, they were also a source of support for dealing with the effects of a catastrophic expenditure such as food shortage.

### ***Borrowing and loans***

A few respondents also reported that they borrowed money from friends to pay for their healthcare cost. However, many individuals were generally reluctant to borrow money and only did so as a last resort when other options were unsuccessful. Borrowing and loaning were not very popular options for dealing with high healthcare cost partly due to the reciprocal support which meant that family and friends were expected to donate rather than lend out to a person who was in need. Also, there was a general apathy towards loans because people considered interest payment as usury, which is not permitted in Islam (see section 6.2.1).

### ***Changes to household expenditure***

Another common strategy insured members used to deal with high healthcare cost was adjustments to household expenditure. In most cases this involved cutting down on food consumption or missing out on payment of utility bills and rent:

*“Sometimes when we have to pay a lot of money [healthcare cost] and there was nothing to sell then we have to try and manage the little money that we have.... usually it is the light and water bills that suffer. Other times that one alone will not be enough and so we have to reduce the number of times we eat rice, and eat more of TZ.... My wife calls me an Economist because of that....”* (FGD: Insured male participant, middle class, rural resident)

### ***Facility shopping<sup>25</sup> and abandonment of treatment***

Some poor beneficiaries acknowledged they often engaged in ‘facility shopping’ in order to obtain certain uncovered medicines or treatment for free. In many other cases, they simply went without the medicines or treatment if they could not afford the cost of such treatment. Such patients were often likely to go back to the facility to seek care because they did not recover from their illness. As one female respondent remarked:

*“I went to the big hospital [Tamale Teaching Hospital] and the doctor asked me to go and buy some of the drugs. I did not have money so I went home and the next day I went to the old hospital [Central Hospital]. They also gave me some medicines and asked me to go and buy the rest. So I decided to go home to use what I had and forgot about the rest...”* (Interview: Insured female respondent 003, poor, rural resident)

The repeated use of healthcare facilities can be expected to lead to cost escalation for the NHIA, and thus raises concerns about the cost-effectiveness of excluding certain medicines from the NHIS benefits package.

## **7.3 Conclusion**

The data and analysis here suggest that the NHIS has improved the affordability of healthcare for the insured in Tamale. This is unsurprising in view of the prepayment and risk sharing features of the NHIS which covers a broad range of services and benefits. Low income beneficiaries appeared to have benefited most from improvements in affordability due to their lower ability to afford outpatient and inpatient care prior to having health insurance. These findings confirm those of other studies, including Nguyen *et al.*, (2011), Mensah *et al.* (2010) and Health System 20/20 (2009) which found a positive relationship between the NHIS and increased affordability of healthcare. However, importantly, the finding here suggest that despite improvement in affordability, some members still incurred substantial costs including informal payments, and uncovered services and medicines. These sometimes had deleterious economic consequences for low income households.

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<sup>25</sup> This refers to the practice where an NHIS beneficiary visits different healthcare facilities in search of free service or medicine.

## **Chapter 8: Effects of the NHIS on healthcare services**

### **8.0 Introduction**

As discussed in the previous chapter, SHI facilitates access to healthcare by enabling greater affordability of healthcare services. But affordability alone does not guarantee that an individual is able to use healthcare services that they need. Andersen (1995) has argued that the nature of the availability and quality of healthcare services is an important determinant of the extent to which an individual is able to translate their 'potential access' (insurance coverage or healthcare affordability) into 'realised' access' (utilisation) (see section 3.1.1.1). Therefore, based on the 'holistic' nature of the conceptual framework of this thesis (see section 4.1), this chapter examines how the NHIS affects healthcare services. In this thesis, 'healthcare service' is used to refer to both healthcare resources and healthcare service delivery.

This discussion is conducted under two major sections. The first section focuses on the effect of the NHIS on the availability of healthcare resources. This is followed by an assessment of how the NHIS has impacted on the quality of healthcare service, particularly outpatient services. The discussion is based on data obtained from five NHIS accredited healthcare facilities in the Tamale District, including two private [Newlife hospital (for-profit) and Seventh Day Adventist Church hospital (mission)] and three public facilities (Tamale Teaching Hospital, Tamale Central Hospital, and Kalpohin Health Centre).

### **8.1 Effect on the availability of healthcare resources**

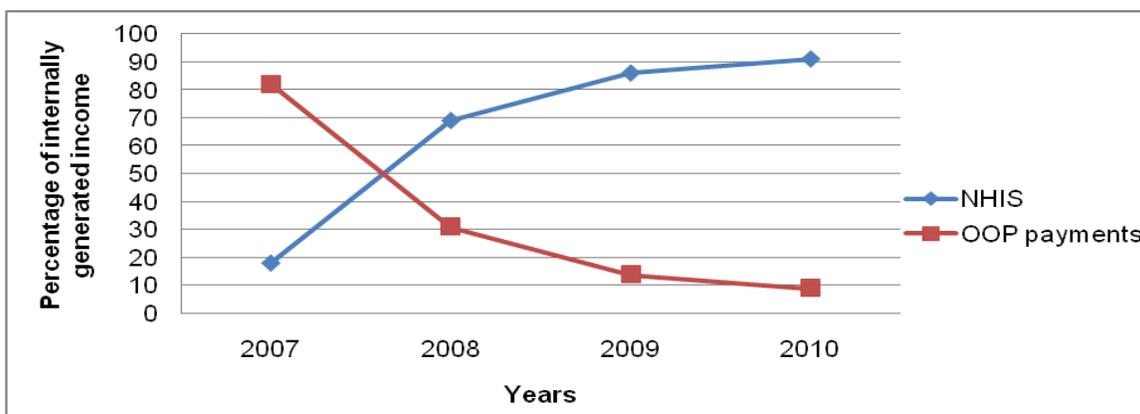
Healthcare resources may be categorised into three types: financial, physical and human. These resources are essential for ensuring effective healthcare service delivery (Aday and Anderson, 1981).

#### **8.1.1 Financial**

The ideal approach for assessing the effect of the NHIS on the financial resources of healthcare providers would have been to compare NHIS accredited providers' income in the pre and post

NHIS periods. However, it was not possible to use this approach due to a lack of adequate pre-NHIS financial data on the sampled providers. The financial effect of the NHIS was examined based on the post-NHIS financial information of providers as well the perception of facility administrators. Although this approach was useful, it was limited by the inability to attribute changes in the financial performance of the providers entirely to the NHIS. The available financial data showed that most providers had experienced a substantial increase in their revenue since joining the NHIS. Although the NHIS was not the only source of revenue for the healthcare providers, as they also derive some income from OOP payments (from non-NHIS patients) and government subventions (in the case of public providers), NHIS income accounted for the largest proportion of the providers' total income. In 2009, NHIS income contributed over three-quarters of the internally generated income (IGI) of all the public providers and the total income of the private providers that were sampled. In addition, the proportion of NHIS income saw a consistent and significant increase in most of the facilities. In the Tamale Teaching Hospital, where data was available, the proportion of NHIS income to total IGI increased by around 400 percent between 2007 and 2010, while OOP income declined by around 89 percent (See Figure 8.1). This suggests that the NHIS contributed substantially to providers' increased income.

**Figure 8.1 Trend of IGI in Tamale Teaching Hospital from 2007 and 2010**



Source: Author's construct based on data from the Tamale Teaching Hospital.

This observation is corroborated by the interview data from the providers. Almost all the facility administrators that were interviewed were unanimous in the view that the NHIS had improved their facility's income:

*“The NHIS has helped the finances of this facility a lot.... I don’t have the figures but I can say our revenue has increased due to the NHIS. Because we are a mission facility we don’t get any grants from the government, we rely mainly on our IGF [Internally generated fund].... NHIS income is a major component of our total income....”* (Interview: Facility administrator, private secondary level facility)

**Table 8.1 Comparison between NHIS tariffs and out-of-pocket tariffs for selected diagnostic services in public and private facilities**

Selected diagnostic test	Charges/Tariffs in Ghana Cedis(GHs)		
	NHIS Tariff (GHs)	OOP charges for the uninsured in a private facility (GHs)	OOP charges for the uninsured in a public facility (GHs)
Malaria	1.63	3.0	NA
Haemoglobin A2&F estimation	3.23	5.0	4.0
Sickling test	2.1	5.0	4.0
Erythrocyte Sedimentation rate (ESR)	1.17	10.0	4.0
Fasting Blood Sugar	2.57	10.0	NA
Human Immunodeficiency Virus ( HIV ) test	3.12	10.0	NA
Routine Stool Examination	2.33	5.0	3.5
Routine Urine Examination	2.82	5.0	8.0
Widal Test	1.49	5.0	6.0
Hepatitis B Surface Antigen( HBSAG ) HBV	2.56	7.0	10.0

Source: Author’s construct based on data from the NHIA, Tamale Teaching Hospital, and Newlife Hospital.

Wiesman and Jutting (2001) have argued that SHI impacts on the financial performance of providers through an increase in the use of the services and/or an increase in service tariffs paid to providers by the insurance scheme. It appears the NHIS’ contribution to the improvement in

providers' income in the Tamale District was largely due to an increase in service utilisation rather than the NHIS tariffs per se. In most of the providers, outpatient service utilisation increased by around two-folds since the introduction of the NHIS (see section 9.1), while NHIS tariffs for most healthcare services were significantly lower than out-of-pocket tariffs. As shown in Table 8.1, out-of-pocket tariffs for most services in both public and private facilities were about thrice higher than those of the NHIS.

The finding on the increased in providers' income is consistent with those by Atinga *et al.* (2012) who found a substantial increase in the income of some healthcare facilities across the ten regions in Ghana as a result of the NHIS. However, it was not clear the extent of the net effect of the NHIS on providers' income. Net income is important because it accounts for the cost incurred in the provision of healthcare services and therefore determines the actual value of the NHIS income to providers. In many of the sampled facilities, the increased in NHIS income came with a rise in service cost, which may have offset the additional income that the NHIS brought in, although no sufficient data was available to fully establish this observation. In many cases, the increased in healthcare utilisation required providers to expand their resources in order to keep up with the demand for care, which accrued substantial cost. Most of the providers also reported of incurring high administrative cost related to the NHIS, including claims processing, which affected their net income from the NHIS:

*"...the DRG costs a lot of money to this hospital.... We have to employ staff to process the claims so we end up spending all our IGF to pay staff and to buy consumables ...."*  
(Interview: Facility administrator, public secondary healthcare facility)

Nonetheless, there was a unanimous view by the providers that the NHIS had greatly improved their cash-flow situation. Unlike the previous user fees system where providers relied mainly on out-of-pocket payments and often-delayed government subventions (in the case of public facilities) for their operating funds, the NHIS income provided the providers with a relatively stable source of income which enabled them to improve the delivery of services. This finding slightly conflicts with that of Witter and Garshong (2009) who noted an increased in cash-flow problems among NHIS providers due to delays in claims payment. But this divergence is likely to be due to recent improvements in claims payments by the NHIA, which improved the availability of cash for providers.

The improvement in cash-flow enabled some providers to improve access to and quality of healthcare services (see sections 8.1.2; 8.1.3; and 8.2). But there appeared to be variations in the extent to which the different healthcare providers were affected by the improvement in income, and the ability to improve healthcare services. This raises equity concerns because certain social groups were predisposed to using certain healthcare providers, which led to better healthcare services to certain individuals than others (see section 8.1.1.1). The next section examines the NHIS tariffs and their differential impact on the income of different facilities.

#### **8.1.1.1      *Variations in NHIS service tariffs***

The NHIS tariff structure for healthcare services was based on DRG payment system (see section 2.2.3). The DRG system allowed for healthcare services to be grouped into bundles of similar cases, and an appropriate tariff applied based on the total cost of treatment for the individual cases in bundle. The tariff for each case bundle is adjusted according to the complexity of the cases, provider ownership (i.e. private, public, and mission), level of care of the provider (i.e. primary, secondary and tertiary), and the age of the patient (i.e. child, adult). This differentiation appeared to be a source of disparity in how much providers earned from the NHIS.

Using the tariffs in Table 8.2 below as an example, it emerged that the NHIS service tariffs for primary level healthcare facilities (health centres, Community-Based Health Planning and Services (CHPS) compounds, and maternity clinics) was about twice lower than those of secondary level facilities, and six times lower than those of tertiary level facilities. Similarly, the tariff for secondary level facilities was about three times lower than that of tertiary level facilities. Private providers were generally paid higher tariffs than public facilities for most healthcare services. According to the NHIA (2011), the differential tariff structure was intended to compensate for the differences in the cost of providing healthcare services by different providers. Most administrators in the public secondary and tertiary level facilities that were interviewed seemed 'satisfied' with the tariff structure, while those in the public primary level facilities and private facilities were generally 'dissatisfied' with it. Some of the dissatisfied administrators even described the tariffs as 'unfair'.

**Table 8.2 NHIS tariffs for three selected OPD case bundles in primary, secondary and tertiary facilities.**

Level of healthcare	Healthcare service tariffs (in GHs)				
	Facility ownership	General OPD consultation		Antenatal/postnatal care	Spontaneous delivery
		Children (GHs)	Adult (GHs)	Adult (GHs)	Adult (GHs)
Primary facility	Public	2.38	2.38	5.34	12.9
	Private	7.64	8.78	13.73	23.4
	Mission	3.21	3.21	7.21	17.41
Secondary facility	Public	5.98	6.15	13.27	44.46
	Private	11.16	11.72	18	31.98
	Mission	8.09	8.3	12.32	44.72
Tertiary facility	Public	NA	NA	21.35	59.28
	Private	NA	NA	NA	NA
	Mission	NA	NA	NA	NA

Source: Adapted from NHIA (2011).

The lack of disaggregated data makes it hard to assess if the NHIS service tariffs genuinely reflect differences in the cost of service provision in different facilities. However, using staff cost as a source of such variations in service delivery cost, as the NHIA has often argued (NHIA, 2011); it suggests that the difference between the facilities is not as much as the variations in the tariffs paid to the different providers. Although high level facilities appeared to use relatively more qualified staff, staff salaries (especially in public facilities) were paid by the central government and therefore were less likely to create significant variation in the cost of service delivery among providers. Besides, providers were supposed to be guided by a standard treatment procedure (i.e. the Ghana Standard Treatment Guideline – GSTG) in the delivery of healthcare services to NHIS patients. This ensured that treatment procedures and the cost associated with them were standardised across all facilities regardless of their level and ownership type.

Even though primary level facilities were paid relatively less, they appeared to deal with more difficult cases. The majority of patients who visited primary level facilities (health centres and CHPS compound) were mostly rural and illiterate. Such patients often required longer consultation time during treatment. Most primary level facilities were based in rural areas with scanty resources and thus leaving health workers having to work in difficult conditions compared with their counterparts in secondary and tertiary level facilities.

*“I have worked at Tamale Teaching Hospital [tertiary level facility] before and I can tell you we deal with more difficult patients here [a local health centre]. Most of our patients are from the interior [rural areas] and they are very difficult to handle.... Also the working condition here is very poor....”* (Interview: Health worker, public primary level facility)

As a result of the differential tariff structure, primary level facilities were less able to earn greater income in order to improve healthcare services for their clients. Most of those who used primary level facilities belonged to disadvantaged social groups, including women and rural residents. Consequently, such groups were less likely to have their healthcare services improved by the NHIS. The higher tariff for private and higher level public facilities meant that they could improve services for their clients, who were mostly well-off and urban-based. Thus, the differential tariff structure may have caused geographic and socio-economic inequities in access to quality healthcare services.

#### **8.1.1.2 Challenges in claims reimbursement**

A number of claims reimbursement issues were found to affect the finances of providers. The most commonly cited of these problems was claims rejection, which was critical for the providers because it caused payment delays and cash flow problems:

*“Claims rejection is around 10 percent in this facility. If that much of your claims are rejected you have cash problem and you cannot buy the needed medical inputs and pay up your creditors... you also have to pay your staff to work overtime to re-process the claims.... Claims rejection is a big nightmare for all facilities.”* (Interview: Facility administrator, public tertiary level facility)

In most facilities, claims were often rejected due to illegible handwriting, wrong application of tariff, and 'irrational' prescription (prescriptions that are not based on the GSTG). Most of these errors were due to manual processing of the claims and a lack of adequate claims processing staff. Similar observations have been made by Atinga *et al.* (2012) in facilities across Ghana. In Tamale District, the problem was compounded by health workers being required to fill in claims forms in addition to their clinical duties:

*"We were told we make too many mistakes in our claims. But it is because of work pressure. I am a nurse and I have not been trained to deal with claims but I'm the one who processes all the claims in this facility.... In addition, I take care of the patients. There is too much to do by just one person, I just cannot cope"* (Interview: Nurse, public primary level facility)

Even when there were no errors, there were still delays in claims reimbursements which affected facilities' income. The NHI Regulation (NHIA, 2004) stipulated that claims should be paid within four weeks of submission to the NHIA. However, across all the facilities, most administrators reported delays in claims payment, although they also acknowledged that the duration of claims reimbursement by the NHIA had improved substantially since 2010.

*"When you submit your claims it takes more than three months for them [the NHIA] to pay you.... Now things have improved a bit... previously it took them [the NHIA] about nine months or a year to reimburse us. They still owe us from the previous years."* (Interview: Facility administrator, private secondary level facility)

Most facility administrators mentioned that they were mainly reimbursed only after four months of claims submission. Part of the delay was due to errors in claims submitted by providers to the NHIA. Also, submitted claims often took too long to be processed by the NHIA. This was partly because claims were checked individually to verify the 'rationality' of the prescription, medical procedure, and the tariff applied before payments were approved. This process often took too long to complete as the DMHIS was not adequately staffed to deal with the high volume of claims that it received. In addition, the DMHIS administrators reported that they often ran out of funds to reimburse providers due to delays in payments by the NHIA.

The facility administrators were unanimous in the view that late claims payments created cashflow problems which affected the availability of medical consumables for delivering healthcare services. This was particularly so due to the NHIS being the largest source of income for most providers. In a study in the Upper East Region in Ghana, Dalinjong and Laar (2012) noted that delayed claims payment influenced some providers to 'cream-skimming' for uninsured patients in order to deal with the cash flow problems that they experienced. However, in Tamale District, although providers relied on out-of-pocket payments by uninsured patients to smooth out essential expenditure during delayed claims payments, there was no evidence to suggest that they 'cream-skimmed' for uninsured patients.

Thus, one of the key findings in this section (8.1.1) is that the NHIS appears to have improved the cash-flow of providers, although there were still issues of delayed claims payment which affected providers' finances. The next sections examine how the financial benefit of the NHIS has impacted on actual healthcare resources of providers.

## **8.1.2 Availability of physical resources**

The physical resources considered here include: healthcare facilities, medical consumables, medical equipment, medicines and healthcare workers.

### **8.1.2.1 *Healthcare facilities***

There are a number of ways through which SHI could impact positively on the availability of healthcare facilities. The increase in the utilisation of healthcare services that often accompanies the introduction of SHI schemes could attract private sector investment in the provision of healthcare services. Also, government could be compelled to establish new healthcare facilities to meet the increase demand for healthcare services (Finkelstein, 2007). These could improve the availability of both healthcare facilities and the range of healthcare services.

It was difficult to fully ascertain the effect of the NHIS on the availability of healthcare facilities in the Tamale District due to lack of sufficient baseline data on healthcare facilities. However, the available data suggest an increased in healthcare facilities (excluding pharmacies and chemical shops) in the district by around 23 percent between 2007 and 2013 when the NHIS was in

operation (see Table 8.3). Much of this increase was due to an increased in the number of private healthcare facilities by around 90 percent during that period. This increase appears to have been motivated by a rise in the demand for healthcare services due to the NHIS:

*“This facility used to be just a lab. But in 2010 I realised the market for healthcare services had increased so I decided to set up a clinic to provide primary healthcare services.”* (Interview: Manager, private healthcare facility)

Some of the accredited private providers that had existed prior to the NHIS noted that the increased in their income due to the NHIS enabled them to expand the range of services they provided:

*“Through the money we get from the NHIS we have been able to expand our services. This used to be just an out-patient facility. But now we provide inpatient care as well.... This year we are building new wards for patients, and this is funded from our NHIS income.”* (Interview: Facility administrator, private secondary level facility)

**Table 8.3 Number of healthcare facilities in Tamale District in 2007 and 2013**

<b>Facility</b>	<b>Total number of facilities in 2007</b>	<b>Total number of accredited facilities in 2013</b>	<b>Total number of accredited facilities in rural Tamale (2013)</b>	<b>Total number of accredited facilities in urban Tamale (2013)</b>
Hospital	3	3	0	3
CHPS	7	7	5	2
Health centre/clinics	9	7	4	3
Private facilities ( including labs)	10	19	4	15
Quasi-government	2	2	0	2
<b>Total</b>	<b>31</b>	<b>38</b>	<b>13</b>	<b>25</b>

Source: Author’s construct based on data from TMHD (2007) and NHIA.

This finding is consistent with that of Dalinjong and Laar (2012) who noted similar facility improvements among NHIS providers in the Upper East Region in Ghana.

As shown in Table 8.3, although there was an increase in private facilities most of them were located in the urban areas, where the demand for their services was higher. This suggests that the increase may have contributed less to reducing geographic disparities in the availability of healthcare facilities. The number of government facilities appears to have remained the same since 2007. This was partly because the government mainly focused on expanding existing public facilities in order to cater for the rise in the demand for healthcare rather than establish new ones.

**Table 8.4 Perception of the availability of NHIS healthcare facilities in Tamale District by insured respondents**

	Availability of NHIS healthcare facilities (present)			Change in the availability of healthcare facilities since NHIS		
	Very satisfied	Slightly satisfied	Dissatisfied	Improved	Same	Worse
<b><u>Socio-economic status</u></b>	%	%	%	%	%	%
Well-off	33.3	44.4	22.3	22.2	66.6	22.2
Middle class	18.8	62.5	18.8	22.5	70.0	7.5
Poor	21.4	34.3	44.3	38.6	50.0	11.4
<b><u>Demographic</u></b>						
Urban	31.3	50.0	18.8	31.1	53.8	15.0
Rural	13.3	30.0	56.7	10.0	76.7	13.3
<b>Total</b>	<b>24.5</b>	<b>50.4</b>	<b>25.1</b>	<b>25.5</b>	<b>64.3</b>	<b>10.2</b>

Source: Author's construct based on interview data.

The majority of the insured respondents were generally 'satisfied' with the level of healthcare facilities in the district, although they also thought it could be better (see Table 8.4). Most of the respondents who had positive view of the availability of healthcare facilities were mostly urban residents, which was understandable given the concentration of healthcare facilities in the urban areas (see Table 8.3). On the contrary, almost half of the rural respondents were 'dissatisfied' with the availability of healthcare facilities. Also, contrary to the general increase in the number of healthcare facilities, the majority of respondents were of the view that the availability of

healthcare facilities had not changed since the introduction of the NHIS. This was mainly because they continued to use the same facilities as they did prior to enrolling in the NHIS.

It emerged that despite the increased in the number of private healthcare providers, poor and rural insured members were likely to perceive themselves as having less access to private healthcare. This was mainly because they were unaware that private facilities provided NHIS care and as a result were mostly unlikely to seek care from a private provider when they were ill:

*“The private hospitals are good but they don’t accept people who use NHIS card... because they are not for government. So when I am sick I go to the government hospitals, they accept people with NHIS card”* (Interview: Insured male respondent 019, poor, rural resident)

In contrast, the majority of the well-off and middle class respondents had better knowledge about the NHIS healthcare services, including the private facilities that provided NHIS care. Such variations in the level of awareness about NHIS healthcare services was partly due to the failure of the NHIA to educate insured members about the details of the scheme, including the benefits package (see section 6.2.4). This brings to focus the empowerment model which emphasises the need for effective sensitisation in order to enhance effective access to healthcare (see section 3.1.1.3).

Thus, even though the NHIS seems to have increased the number of private providers in the Tamale District, insured poor and rural respondents appears to have benefitted less from such expansion. This was likely to have contributed to socioeconomic disparities in access to healthcare, particularly private healthcare. This finding contradicts with that of Akanzili *et al.* (2012) who noted that the NHIS had improved poor people’s access to private healthcare in Ghana. But this difference is likely to be mainly because their finding was based on the NHIS’ contribution to reducing financial barriers to private healthcare which most poor people could not afford prior to enrolling in the NHIS. The ability to use private healthcare is critical because it shows the extent to an individuals’ access to healthcare. Particularly, within the context of NHIS enrolment, it is needed to persuade individuals about the value of the NHIS in order to facilitate greater enrolment. This partly explains why membership renewal was less among low income and rural households (see sections 6.1 and 6.2.7).

Similarly, the concentration of most NHIS facilities in urban areas and the fact that government simply expanded existing facilities may have contributed to geographic disparities in access to healthcare. Most poor rural insured members were simply unable to afford to travel to the urban areas to access healthcare. Thus, urban and better-off insured persons appeared to be relatively better placed to benefit more from the NHIS than rural residents. This resonates quite well with the inverse care law, which underscores the relative inability of low income individuals to benefit from the healthcare system due to their poor access to information and low financial ability (Hart, 1971).

### **8.1.2.2      *Medical consumables***

The availability of medical consumables is an important determinant of steady healthcare service delivery. This includes the supply of basic medical inputs such as syringes, cotton, gloves, needles, gauze, catheter and infusions. An insurance scheme can have both adverse and positive impact on the availability of medical consumables due to its potential to increase the demand for healthcare services (and the use of such consumables) and improve providers' income respectively. In most of the sampled facilities, medical consumables were purchased from their IGI. Thus, given that NHIS income is an IGI, it was expected that it would have positive influence on the availability of medical consumables in NHIS facilities.

In the absence of data on stock levels of medical consumables, facility administrators were asked of their views on changes in the availability of such resources since the introduction of the NHIS. As shown in Table 8.5, the majority of administrators in the public facilities were generally of the view that the availability of medical inputs had improved since the introduction of the NHIS. This is understandable given that, prior to the NHIS, most public facilities heavily dependent on government grants to purchase such inputs, which often resulted in acute shortages due to delayed payment by government. However, with the improvement in income due to the NHIS, most providers were able to maintain good stock levels of essential consumables. Although the public providers did experience delays in claims reimbursement, it did not affect the availability of consumables much because they (public providers) were able to purchase medical inputs on credit from government medical stores:

*“Stock levels of consumables in this facility is always high. It is not like in the past when we used to rely only on GOG [Government of Ghana] subvention. With the money that*

*we get from the NHIS we are able to make sure that we replenish all the time... Payment delays do not affect us that much because we buy on credit from central stores [government medical stores]. They are part of the system, and so they know that whenever the NHIA pays us we will pay them too” (Interview: Facility administrator, public tertiary level facility)*

**Table 8.5 Perception of changes in the availability of medical consumables by facility administrators**

Type of facility	Improved (%)	Remained same (%)	worse (%)
Public facility administrators	65.5	20.0	15.5
Private facility administrators	20.7	47.0	32.3

Source: Author’s construct based on interview data.

However, most administrators in the private facilities were of the view that the availability of consumables had remained the same since the introduction of the NHIS (see Table 8.5). This was partly because their source of funding for consumables (i.e. IGI) did not change much with the introduction of the NHIS. Rather, a few administrators in the private facilities mentioned of a slight increase in the frequency of stock-outs of consumables since joining the NHIS. They attributed this mainly to an increased in healthcare utilisation and delays in claims payments. Another reason for this was that, unlike the public providers, the private providers purchased consumables from private suppliers and therefore did not have the privilege of buying on credit as the public providers did in order to ensure a steady supply of consumables when there were delays in claims reimbursement:

*“I have not seen many changes [in the availability of consumables]... sometimes we experience shortages. It is difficult for us if the NHIA doesn’t pay us because we buy all our things [drugs and consumables] from private suppliers, and they will not sell on*

*credit if you continue to default payment.”* (Interview: Facility administrator, private secondary level facility)

Thus, the contribution of the NHIS to the availability of medical consumables can generally be described as marginally positive. This was confirmed by the insured respondents who were unanimous in the view that their experience of stock-out of consumables in the NHIS facilities had reduced.

### **8.1.2.3 Medical equipment**

In terms of the availability of medical equipment, private providers reported of substantial improvements, while the majority of administrators in the public facilities thought it had got ‘worse’ (see Table 8.6). This was partly because the increased in cashflow enabled private providers to purchase new medical equipment and to service old ones regularly:

*“...the NHIS revenue has helped us to buy certain surgical equipment. First we were only providing OPD services but now we provide inpatient service.... thanks to the NHIS money....”* (Interview: Facility administrator, private secondary level facility)

However, most public facilities did not spend their NHIS income on medical equipment as they considered them to be capital intensive and therefore left it to central government to provide. In addition, the increase in healthcare utilisation due to the NHIS put pressure on the few medical equipment that were available, leading to frequent break-down. In the case of public facilities, they often had to wait for central government to send out engineers from the national capital (Accra) to fix the broken equipment.

*“Now it [availability of medical equipment] has got worse due to the pressure. These [medical equipment] are capital intensive and so it is government who provides them for us. Even maintenance [of equipment] it is government who is supposed to do that and not us. Sometimes the equipment break down and you have to wait for too long before the engineers turn up to fix it....”* (Interview: Facility administrator, public tertiary level facility)

**Table 8.6 Perception of facility administrators about the availability of medical equipment**

Type of facility	Improved (%)	Improved slightly (%)	Remained same (%)	Worse (%)
Public facility respondents	10.2	19.8	25.0	45.0
Private facility respondents	50.0	22.3	10.0	17.7

Source: Author’s construct based on interview data.

The frequent breakdown of medical equipment caused appointment cancellation, increased patient referral, and long waiting times in most of the public healthcare facilities. These were often a source of financial strain on poor insured patients. This problem was compounded by a lack of ambulance service in most facilities which meant that referred patients had to incur extra cost to be transported to the facility in private vehicles. Understandably, some poor insured respondents reported that the frequent breakdown of medical equipment was a key source of dissatisfaction with NHIS care:

*“Last month my brother was sick and I took him to Old Hospital [Central Hospital]. I had to hire a taxi to take him there.... He was then referred to the lab. But when we got there we were told the machines were not working.... They did not have an ambulance so I had to get another taxi to take him to the big hospital [Tamale Teaching Hospital] which cost me a lot of money. ”* (Interview: Insured male respondent 024, poor, urban resident)

Thus, the NHIS seems to have had an adverse impact on medical equipment in public facilities through increased usage, resulting in frequent breakdown. But at the same time, the improvement in providers’ income by the NHIS enabled some private providers to purchase essential medical equipment to improve healthcare services delivery.

#### **8.1.2.4 Medicines**

There were about five-hundred and fifty medicines in the NHIS benefits package that insured members could access for 'free' (NHIA, 2010). These medicines could be obtained either from accredited healthcare facilities and a private pharmacy or drugstore if accompanied with a prescription from an accredited provider. However, many insured members, understandably, preferred to obtain their prescriptions from the facility they sought care from due to the costs of travelling to private pharmacies and drugstores. Hence, the availability of NHIS medicines in the NHIS accredited facilities was critical to healthcare access.

The majority of administrators were of the view that drug availability had either improved or remained the same since the introduction of the NHIS. Similarly, most facility administrators reported of a reduction in the frequency and duration of medicine stock-outs. Generally, it appeared public facilities experienced less medicine stock-outs than private providers (see Table 8.7), which was largely due to the latter's inability to purchase medicines on credit when there was late claims payment. The most frequently stocked-out medicines were anti-malarial drugs, which occurred mostly in the rainy season (between June and September) when malaria cases were very high. Some insured respondents were of the view that NHIS providers deliberately stocked-out expensive medicines in order that they could sell them to uninsured patients, who paid higher prices for them:

*"Sometimes you go to see a doctor and they tell you to go and buy some of the medicines. And then somebody who does not have health insurance goes there they give them that medicine... because we don't pay they don't want to give them [medicine] to us"* (FGD: Insured male participant, middle class, urban resident)

Although this allegation was denied by the facility administrators, they acknowledged that NHIS tariffs for most medicines were lower than the out-of-pocket prices. Thus, it is possible this could have motivated some providers to sell such medicines to uninsured patients rather than the insured patients.

Among the insured respondents, one in every five mentioned that they did not get a particular NHIS medicine from a facility due to stock-out. Interestingly, the majority of the insured respondents said they were generally 'satisfied' with the availability of NHIS medicines. This

was partly because they were mostly able to obtain such medicines from accredited private pharmacies if they were not available in the facility. There was also unanimity among the insured respondents in the view that access to essential medicines had improved substantially since enrolling in the NHIS. However, some poor insured respondents complained that medicine stock-out had increased the financial cost of seeking healthcare for them:

*“They gave me some of the medicines and asked me to get the rest from PK Gombila [accredited private pharmacy]. But I did not have money to get a taxi to go there. So I could not get the medicine....”* (Interview: Female respondent 006, poor, rural resident)

**Table 8.7 Perception of the availability and frequency of stock-out of medicines by facility administrators**

	Availability of medicines			Frequency of medicines stock-out		
	Improved (%)	Remained same (%)	Worse (%)	Never (%)	Occasionally (%)	Frequently (%)
Public facility respondents	51.2	39.0	10.0	0.0	79.2	20.8
Private facility respondents	29.4	40.6	30	0.0	44.5	55.5

Source: Author’s construct based on interview data

Beyond availability, the relevance of the NHIS covered medicines is also central to determining the extent to which the NHIS impacted on healthcare access. The medicine list was constituted by the NHIA based on the treatment needs of the covered diseases (NHIA, 2010). Across the interviews and FGDs, most health workers and insured respondents were generally content with the composition of the NHIS medicines list, although a few of them also thought it could be better. Some health workers noted that there were certain essential drugs for treating some of the covered diseases that were not included in the medicine list, which affected effective healthcare delivery.

*“The NHIS medicine list has helped people a lot. But I think it can still do better....Some basic things like oxygen, vitamin C and Vitamin K are not covered... these are very important for child delivery .”* (Interview: Doctor, private secondary level facility)

Healthcare workers were allowed to prescribe the uncovered medicines to insured patients, but only at the cost of the patient. Some poor insured respondents complained that they often struggled to pay the cost of such uncovered drugs (see section 7.2.1).

Thus, even though the NHIS appeared to have improved the availability of and access to medicines, medicine stock-outs were still prevalent in most facilities. The cost of obtaining the stocked-out and uncovered medicines created financial barriers to healthcare access for some poor insured members.

### **8.1.3 Availability of healthcare workers**

Another pathway through which the NHIS shaped access to and quality of healthcare was through the availability and morale of health workers. The level of healthcare workers in a facility has a direct influence on patient waiting times and referrals which ultimately determines if an individual is able to use healthcare services that they need or not (Witter *et al.*, 2007).

The administrative records of most of the sampled facilities showed an increase in the number of healthcare workers since the introduction of the NHIS. For example, in Tamale Teaching Hospital, the number of core medical staff doubled between 2005 and 2010. However, it was difficult to estimate how much of the increase, particularly in public facilities, was due to the NHIS given that government already allocated newly graduated doctors and nurses to various public facilities each year. There is evidence that over the last couple of years the number of health workers trained in Ghana has substantially increased. There has also been an improvement in the remuneration and incentives of health workers, which has increased the retention rate of health workers particularly in deprived areas such as the Northern Region (Antwi and Phillips, 2011). Therefore, it was possible that the number of health workers in those facilities would have still increased even without the NHIS.

**Table 8.8 Perception of administrators about the availability of healthcare workers, and healthcare workers' view about changes in their morale to work**

	Availability of health workers			Changes in health workers' morale to work		
	Improved (%)	Remained same (%)	Decreased (%)	Improved (%)	Remained same (%)	Decreased (%)
Public facility respondents	23.8	42.9	33.0	19.0	28.6	52.4
Private facility respondents	72.2	22.2	5.6	72.2	16.7	11.9

Source: Author's construct based on interview data.

During the interviews, the facility administrators also acknowledged the increased in the number of healthcare workers. The improvement in facilities income due to the NHIS enabled the recruitment of locum and permanent staff in public and private facilities respectively. Unlike public providers, whose staff were mostly remunerated by central government, private providers relied on internally generated funds to pay their staff, which the NHIS income supported effectively. Unsurprisingly, most private providers were of the view that the NHIS had contributed to improvements in the availability of healthcare workers by enabling them to offer better pay to attract qualified staff. However, the public providers thought the availability of healthcare workers had either improved slightly or remained the same since the introduction of the NHIS (see Table 8.8). This was partly because public providers were not directly involved in the recruitment of most of their staff as they were supplied by the Ministry of Health. They could only employ locum staff. Consequently, public providers could not spend much of their NHIS income to employ more healthcare workers in order to improve their availability.

The increased in the number of staff in some of the facilities did not necessarily represent an improvement in the *availability* healthcare workers. This is because the availability healthcare workers are a function of the ratio of the number of healthcare workers and the number of patients (WHO, 2006). Although there was no sufficient data to determine this ratio in the pre

and post NHIS periods, many facility administrators noted that it had substantially reduced since the introduction of the NHIS. In most facilities, the number of healthcare workers did not increase to keep up with the level of increase in service utilisation, which created a huge deficit in the availability of healthcare workers. For example, in the Tamale Central Hospital, health worker deficit was estimated to be around 33 percent of the total number of health workers in 2010 (Tamale Central Hospital, 2010). The high staff deficit appeared to have resulted in an increase in staff workload, low staff morale and high patient waiting times, especially in public facilities.

*“... Although our [staff] numbers have increased recently, the demand for our services has also increased.... so we cannot cope. It puts too much pressure on the staff. The patients are suffering from this too, sometimes they come here in the morning and go home in the night because there is no enough doctors around.... The government needs to give us more staff.”* (Interview: Facility administrator, public secondary level facility)

In terms of staff morale, there were mixed views on how the NHIS may have impacted on it. Most healthcare workers in the private facilities thought they were more motivated to work in the post-NHIS period, compared with the majority of healthcare workers in public facilities who thought their morale had decreased with the introduction of the NHIS (see Table 8.8). Many healthcare workers in the private facilities often alluded to an increase in their wages due to the NHIS as the reason for the improvement in their morale. Most healthcare workers in the private facilities were part-time workers who also doubled as full-time staff in public facilities, and thus were able to earn extra income to supplement their salary:

*“... The salary the government pays us is not good at all. It is not enough to cater for our family. But thanks to the NHIS now we can do some extra work in the private hospitals to earn some more cash.... now we are happy at work because we earn enough to feed our family.”* (Interview: Health worker, private primary level facility)

On the other hand, many healthcare workers in the public facilities complained about their wages being too small and not in commensuration with the workload that the NHIS had brought on them. Similar findings have been reported by Dalinjong and Laar (2012) who found health workers in NHIS public healthcare facilities in the Upper East region to have developed a low

morale to work due to high workload and poor remuneration. The remark of a health worker in one of the sampled facilities highlights this point:

*“Now, the work I do has increased by tenfold. If you came here in the morning, you would be surprised at the length of the queue of patients waiting to see me.... I blame this on the NHIS... the staff number is too small.... We work very hard but the wages are very poor”* (Interview: Doctor, public secondary level facility)

Most of the facility administrators reported that the NHIS had enabled them to improve staff welfare and development. However, the majority of the sampled healthcare workers in the public facilities said staff welfare programmes had not improved since the introduction of the NHIS.

*“...due to the increased in internally generated income, we are able to improve our staff welfare programmes such as buying them presents during festive periods... sponsor staff to attend workshops and seminars.”* (Interview: Facility administrator, public secondary level facility)

Therefore, although the NHIS enabled most facilities to employ more health workers, it did not improve the availability of health workers in most facilities due to the increased in the demand for healthcare services which was not matched with an appropriate level of supply of healthcare workers. At the same time, the NHIS boosted the morale of some healthcare workers, mostly in private facilities, by improving their income.

## **8.2 Effects of the NHIS on the quality of healthcare services**

The nature of the organisation of healthcare resources and service shapes access to healthcare (Frenk, 1992). This is often manifested in the form of patient waiting times and patient contact experience with health workers. These are important measures of the quality of healthcare services (Robyn *et al.* 2013).

### 8.2.1 Patients waiting times

An ideal approach for determining the impact of the NHIS on patients' waiting times would be to compare the waiting times for the pre and post NHIS periods. Unfortunately, none of the sampled facilities had sufficient data to allow for such analysis. Instead, the waiting times for patients were obtained through an observation approach (non-participant observation) in two NHIS healthcare facilities (see section 5.3). The waiting times for insured and uninsured patients were compared to assess the effects of the NHIS.

The results of the patient observation are presented in Table 8.8. It shows high patient waiting times in both facilities, but most especially in public facilities. An average NHIS patient seeking a day's outpatient care in a public facility spent just under seven hours (414 minutes) between the time of arrival and discharge. Much of the waiting time was due to time spent in consultation with a doctor (including queuing time) and diagnostic examination. Also, there was a huge variation between the waiting times of the public and private facilities. The average waiting time in the public facility was about twice as much as that of the private facility. In all the stages of the healthcare seeking process, patients in the private facility spent consistently less time than those in the public facility.

These findings were corroborated by the interview data, as both insured and uninsured respondents reported that waiting times for outpatient care was too high and had increased since the introduction of the NHIS:

*"These days when you want to go to the hospital you need to leave very early in the morning, say around 5.30 am. Otherwise, the place will be full by the time you get there. It used not to be this bad about 4 – 5 years ago. Now things have got worse. Because of the health insurance everybody now goes to the hospital" (Interview: Insured female respondent 091, middle class, urban resident)*

The results also show that uninsured patients spent slightly longer time than insured patients in both the private and public facilities. This was partly because while both insured and uninsured patients went through similar stages in seeking care in a facility, the latter took longer time to make payments for consultation, diagnosis and medicine than insured patients spent to get their NHIS membership card and claims forms processed (see Table 8.8). This finding contradicts

with a study by Dalinjong and Laar (2012) in the Upper East Region which found waiting times among uninsured patients to be significantly lower than that of insured patients. This divergence appears to be due to differences in the organisation of healthcare service delivery in different facilities.

**Table 8.8 Average waiting times for outpatient care by insured and uninsured in facilities in Tamale District**

Stages of seeking care in a facility	Public facility		Private facilities	
	Mean time (Minutes)	Mean time (Minutes)	Mean time (Minutes)	Mean time (Minutes)
	Insured	Uninsured	Insured	Uninsured
Arrival, queuing time, and payments/ NHIS card validation.	48	65	7	4
Front desk – creating patient file and issuance of hospital attendance card.	21	24	5	6
Queuing time and initial checks (vital signs check) by nurse.	11	10	7.6	8
Queuing time and consultation with doctor.	103.3	100.5	95	91.3
Queuing time for payment /Card validation for lab diagnosis.	10	13	9	8
Queuing time, lab test, waiting for test result.	144	143	100	102
Queuing time and 2 <sup>nd</sup> consultation with doctor to read test results and prescribe medicine.	36	38	17	16
Queuing and pick up of prescription at the pharmacy.	41	42	7	9
<b>Total</b>	<b>414.3</b>	<b>435.5</b>	<b>247.6</b>	<b>244.3</b>

Source: Author's construct based on interview data.

The relatively longer waiting times observed among insured patients contradicts with commonly held views among respondents. Both insured and uninsured respondents perceived that uninsured patients had relatively shorter waiting time:

*“When you have health insurance [NHIS] and you go to the hospital they don’t treat you nicely. They allow people who have no health insurance to see the doctor before you.”*

(Interview: Insured female respondent 005, poor, rural resident)

Although some uninsured patients experienced shorter waiting times compared with the insured, this was not mainly because they were uninsured but rather their socioeconomic status. Some well-off individuals were not insured in the NHIS and therefore were able to use their influence to gain favours from facility staff to see a doctor quickly which reduced their waiting time.

Much of the long waiting times appeared to be primarily due to an increased in healthcare utilisation resulting from the NHIS and the lack of adequate staff to deal with the high demand for care (see section 8.1.3). Also, the NHIS brought in extra administrative work, such as claims processing, which slowed down the work of healthcare workers in the discharge of their clinical duties. Some doctors complained about spending too much of their consultation hours on NHIS-related administrative work:

*“There are too many forms to fill now [since the introduction of the NHIS]. You have to fill in the claims form, do the consultation as well as the prescription. All these take a lot of time to complete, especially claims forms. Now, we spend twice more time on patients, not in examining them but to fill forms”* (Interview: Doctor, public tertiary level facility)

In addition, many providers also lacked effective mechanisms for managing patients during healthcare seeking. None of the sampled providers has an appointment system for outpatient consultation; they mainly operated a drop-in service. This often resulted in providers unable to properly plan their resources to meet demand. In addition, patient queues were often poorly managed, particularly in public facilities, leading to high incidence of ‘queue jumping’.

The long waiting times adversely affected the ability of insured individuals to access needed healthcare and also discouraged some people, particularly well-off individuals, from enrolling in the NHIS (see section 6.2.7). Some insured respondents reported that they often did not go to the hospital when they were ill and rather used informal forms of care due to the long waiting times in the NHIS facilities:

*“... you can spend the whole day there [in the hospital] only to be given a few drugs.... It is difficult to wait in a queue for long when you are sick.... Sometimes I think about the time I will spend in the hospital and decide to stay at home. Other times I just go to the drugstore....”* (Interview: Insured female respondent 018, middle class, urban resident)

Thus, the NHIS appears to have substantially contributed to an increase in patient waiting time in healthcare facilities, which adversely affected the quality of healthcare that insured patients received. Although insured persons are often perceived to have longer waiting times, there was no evidence in this study to suggest that individuals waiting time was deliberately lengthened because of their NHIS.

### **8.2.2 Patients’ contact experience with healthcare workers**

The NHIS could affect the nature of individuals’ contact experience with healthcare workers because payment for healthcare services is not as direct as is the case with out-of-pocket systems. As a result, insured patients are less likely to have greater leverage over providers as they will do in out-of-pocket systems.

The majority of insured respondents said they were not satisfied with their contact experience with healthcare workers during their last visit to an NHIS healthcare facility (see Table 8.9). Most of these respondents described their contact experience with nurses as ‘bad’, ‘cold’ ‘impolite’, ‘rude’ and ‘rushed’, but thought doctors were generally ‘nice’, ‘patient’ and ‘polite’ during consultations. The uninsured respondents, on the other hand, had a mixture of both positive and negative perception about the standard of their contact experience with healthcare workers. Also, both insured and uninsured respondents were generally of the view that the quality of their contact experience with healthcare workers had either remained the same or got worse since the introduction of the NHIS (see Table 8.9). The majority of the respondents thought staff attitude towards patients was generally better in private facilities than in public facilities. They mentioned in particular staff curtsey, attention, queue management and provision of medicine as areas where private providers performed better.

**Table 8.9 Perception of respondents about the quality of patients' contact experience with providers**

	Contact experience with providers			Changes in contact experience with providers		
	Very Satisfied (%)	Satisfied (%)	Unsatisfied (%)	Improved (%)	Remained same (%)	Worse (%)
<b><u>Insured</u></b>						
Well-off	14.3	14.3	71.5	42.9	42.9	14.3
Middle class	20.0	40.0	40.0	40.0	40.0	20.0
Poor	0.0	7.1	92.8	7.1	57.1	28.6
<b>Total</b>	<b>9.7</b>	<b>19.3</b>	<b>71.0</b>	<b>25.9</b>	<b>48.4</b>	<b>22.6</b>
<b><u>Uninsured</u></b>						
Well-off	44.6	18.2	37.3	9.1	36.4	54.5
Middle class	8.3	50.0	41.7	41.7	41.7	16.7
Poor	9.0	45.3	45.7	25.0	62.5	12.5
<b>Total</b>	<b>10.4</b>	<b>64.5</b>	<b>25.1</b>	<b>25.8</b>	<b>45.2</b>	<b>29.0</b>

Source: Author's construct based on interview data.

In a similar study in Upper East Region, Dalinjong and Laar (2012) noted that uninsured patients were likely to experience better contact time with health workers than insured patients. However, in Tamale District, while such variations in the quality of contact experience was not directly observed, many insured respondents thought they were treated poorly by healthcare workers compared with uninsured patients.

*“If you have health insurance and you go to the hospital the workers are not nice to you. But if you are paying [out of pocket payments] they respect you.”* (FGD: Insured female participant, poor, rural resident)

Again, this appears to be mainly due to patients' socioeconomic status rather than their NHIS status per se. However, it also appears that the NHIS reimbursement system may have had unintended consequences on the behaviour of certain providers, which affected the standard of care they provided to insured patients. Under the DRG system, providers were reimbursed based on the quantity of the service (i.e. the number of NHIS patients) they provided rather than

the standard of the service. This appeared to have created a perverse incentive for providers to want to rush through their consultation/treatment session with insured patients in order to increase the quantity of services they delivered. Silverman and Skinner (2004) have argued that providers in DRG payment systems are likely to compromise on the quality of healthcare services due to the desire to reduce cost. Similar findings have been reported by Robyn *et al.* (2013) in relation to insured patients of a CBHIS in Burkina Faso, who experienced poorer quality healthcare services because the payment system (capitation) failed to motivate providers to improve the standard of care.

Table 8.9 shows that even though there were no marked socioeconomic variations in respondents' perception about the quality of contact experience with healthcare workers, slightly more of the poor respondents said they had had a negative experience. Aitkins and Thomas (2004) have noted that low income patients are likely to have poor quality contact experience with health workers than other socioeconomic groups due to their illiteracy. Owing to their high level of illiteracy, most low income patients were unable to engage properly with healthcare workers, who mostly communicated with patients in English. In addition, studies have shown that low income individuals are less likely to be critical about their contact experience with health workers. Hence, providers are less likely to be concerned about improving the standard of care for low income groups (Hart, 1971).

One of the most commonly cited complaints about providers by the poor insured respondents was the fact that they were often given fewer drugs. Haddad *et al.* (1998) has underscored the importance of drugs availability in poor people's perception of the quality of healthcare in low income countries. Most of the poor respondents tended to judge the quality of care by the amount of medicines that was prescribed to them by the doctor. The provision of fewer medicines was perceived as poor quality healthcare service. This perception appeared to have been influenced by the view that illness is cured by medicines and therefore the more medicine a person took the better their chances of getting cured quickly:

*"...they [the doctors] will give you just a few medicines and ask you to go home.... If the doctor gives you more medicine it is good because it helps you to get well quickly...."*  
(Interview: Insured female respondent 012, poor, urban resident)

Although many insured respondents were not satisfied with the standard of care from providers, they were often unwilling to make an official complaint about it. This was partly due to a lack of effective complaint mechanisms in the healthcare facilities and the NHIS as well as a perception that no action would be taken to address the complaints. Some respondents also thought that making a complaint could get a staff member sacked, which they did not want to be responsible for. More importantly, some insured respondents were of the view that NHIS healthcare was 'free' and thus providers were not obliged on the standard of the care they provide:

*"... the government provides the healthcare[ NHIS care] to us for free, we don't pay for it, even the medicine. So we cannot complain.... Even If the nurse does something wrong to you, you cannot complain because you did not pay for the service...."*

(Interview: Insured female respondent 003, poor, rural respondent)

In sum, the poor patients' contact experience with healthcare workers in NHIS accredited facilities had adverse effects on the quality of healthcare services that insured patients received.

### **8.3 Conclusion**

It emerged from this chapter that the NHIS had mixed effects on healthcare services. On the one hand, it improved the cashflow of providers, and thus enabled them to improve the availability of medical consumables, medical equipment, medicine, and health workers (in some cases). However, the net effect of NHIS income on the financial performance of providers appears to have been less due to the additional administrative costs and increased cost of service delivery that the NHIS has brought to bear on providers. On the healthcare quality side, the NHIS appears to have had a negative influence on patient waiting times and patients' contact experience with providers due to increased demand for healthcare and an ill-devised provider payment system.

On the equity side, the NHIS tariff structure appears to have favoured private and higher level facilities, which enabled them to improve on healthcare services for their clients, who are mostly well-off and urban-based. However, primary level facilities, which are used mainly by socially disadvantaged groups, were paid less and thus were less able to improve on healthcare services for their clients. This seems to have created disparities in access to quality healthcare.

Although the NHIS generally improved some resources in healthcare facilities, those facilities were mostly based in urban areas and therefore appears to have benefitted more urban residents and well-off individuals at the expense rural residents. The government's strategy of expanding the capacity of existing facilities, which are mainly urban based, reinforced geographic inequities in access to care. Also, although the NHIS improved the availability of private healthcare facilities, such facilities were mainly based in the urban areas which resulted in rural insured individuals benefitting less from the expansion. These appeared to have reinforced existing socioeconomic inequities in access to healthcare in the Tamale District.

The next chapter examines how the availability and quality of healthcare services under the NHIS has shaped insured persons' healthcare seeking behaviour.

## **Chapter 9: Effects of the NHIS on the utilisation of healthcare services**

### **9.0 Introduction**

Utilisation is an outcome measure of healthcare access which reflects the extent of the availability, affordability and quality of healthcare services in a healthcare system (Andersen, 1995). Given the nature of the NHIS' impact on the dimensions of healthcare access, as discussed in the previous four chapters, it was assumed that this would be reflected in the healthcare seeking behaviour of insured members.

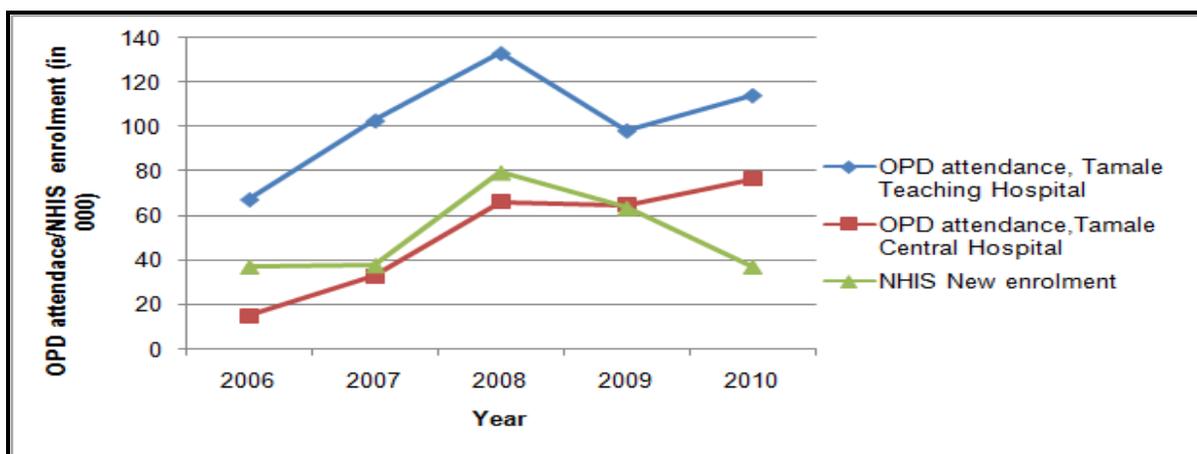
This chapter focuses primarily on the influence of the NHIS on the utilisation of healthcare services by insured members. It ascertains how the NHIS has shaped individuals' behaviour towards the use of formal healthcare, and whether the NHIS ultimately enables insured members to address their healthcare needs. The first section of this chapter examines patterns of healthcare utilisation in the Tamale District and the extent to which the NHIS may have contributed to it. This is followed by an assessment of the healthcare seeking behaviour of insured members.

### **9.1 Trends in healthcare utilisation in Tamale District**

One of the ways by which the effects of the NHIS on healthcare access can be ascertained is by assessing changes in the utilisation of primary healthcare services (e.g. outpatient care). An examination of the outpatient utilisation data of facilities revealed a significant increase in the use of outpatient care since the introduction of the NHIS. As shown in Figure 9.1, outpatient service utilisation in Tamale Teaching and Tamale Central hospitals increased by around 70 percent and 400 percent respectively between 2006 and 2010. This increase mirrors the national trend in healthcare utilisation since the introduction of the NHIS (NHIA, 2011), and suggests that the NHIS may have had a strong influence.

A number of factors are suggestive of the fact that the NHIS has had a significant influence on the increase in outpatient service utilisation in the Tamale District. First, the increase in utilisation was matched with an increased in new enrolment in the NHIS in most years (see Figure 9.1). Although enrolment fell while service utilisation continued to rise after 2008, there was a rise in membership renewals (see Appendix 10), which may have offset the effects of the decline in enrolment, and thus continued to push up healthcare utilisation. Second, disaggregated patient data from the surveyed facilities revealed that NHIS patients represents an average of around 75 percent of the total number of patients in most years after the introduction of the NHIS. The proportion of NHIS patient grew steadily in line with the increased in utilisation. These figures show that the NHIS had strong influence on the increased in outpatient service utilisation in Tamale District.

**Figure 9.1 Patterns of outpatient (OPD) service utilisation in two public facilities and NHIS enrolment in the Tamale District between 2006 and 2010.**



Source: Author's construct based on data from Tamale DMHIA (2011), Tamale Teaching Hospital (2011), Tamale Central Hospital (2011).

Across the interviews and FGDs, the majority of insured respondents were of the view that the NHIS had 'improved' on their ability to use primary healthcare services (see Table 9.1). This appeared to be due to the reduction in the direct cost of care which reduced financial constraints to healthcare access (see section 7.1.1). Insured poor respondents were more likely to report of an improvement in utilisation than other socioeconomic groups, while the majority of well-off insured members and about half of rural respondents mostly thought healthcare utilisation had

remained the same. The response of the well-off may be due to their relatively greater financial ability to use healthcare prior to the NHIS, resulting in the NHIS having less or marginal effect on their use primary healthcare services (see also section 7.1). The views of the rural respondents are worrying because they reflect an under-provision of healthcare services in rural areas (see section 8.1.2.1):

*“...There is no difference for me. Even when you have the health insurance, there is no hospital around for you to use when you are sick.”* (Interview: Insured female respondent 093, middle class, rural resident)

**Table 9.1 Perception of the effect of the NHIS on the use of primary healthcare services by insured members**

	Improved	Remained same	Worse
	(%)	(%)	(%)
<b><u>Socioeconomic</u></b>			
Well-off	47.9	52.1	0.00
Middle class	60.0	30.0	10.0
Poor	74.0	20.0	6.0
<b>Total</b>	<b>60.6</b>	<b>34.1</b>	<b>5.3</b>
<b><u>Geographic</u></b>			
Urban	80.9	19.2	0.0
Rural	40.3	49.1	10.6

Source: Author’s construct based on interview data

Particularly, women and elderly respondents generally had a positive view of improvement in healthcare utilisation as a result of the NHIS. This partly reflects their relatively higher healthcare needs. Many elderly respondents reported that the NHIS had enabled them to use healthcare to manage their chronic illnesses such as hypertension and diabetes:

*“I have high blood pressure and the doctor said I needed to go to the hospital every month. I used to miss my appointments because I did not have money. The doctor advised me to get the health insurance. Now I go to see the doctor every month and my health has got better.”* (Interview: Insured female respondent, 034, poor, rural resident)

In line with this, Bajari *et al.* (2006) has noted that elderly people are likely to benefit more from insurance programmes due to their relatively lower opportunity cost in seeking care and greater healthcare needs. Similarly, Robertson and Collins (2011) have argued that women are generally likely to use healthcare more when financial barriers are removed or minimised due to their reproductive health. In a similar NHIS study, Brugiavini and Pace (2010) found that insured women were more likely to receive antenatal care and deliver in a healthcare facility with professional assistance. Some insured female respondents mentioned that they no longer required their husband's consent or financial support before they could use maternal healthcare due to their NHIS insurance, and that, this has improved their ability to use maternal healthcare:

*“I have five children. Four of them were delivered at home.... Before, when I was pregnant I will ask my husband for money to go for check up. Most of the time he would he would say I didn't need to go to the hospital.... But now [that I have health insurance] I go there [hospital] every month, even this baby was delivered in the hospital”* (Interview: Insured female respondent 048, poor, rural resident)

Thus, it can be inferred that the NHIS generally improved the utilisation of healthcare services among insured members. This is consistent with findings by Mensah *et al.* (2010), Brugiavini and Pace (2010) and Blanchet *et al.* (2012) who found the NHIS to have increased healthcare utilisation in other parts of Ghana. The data in this study also suggests that insured low income households benefited more from improvements in the utilisation of primary healthcare services due to their relatively high healthcare needs.

## **9.2 Healthcare seeking behaviour**

The extent to which health insurance shapes healthcare seeking behaviour is likely to manifest in the type of care insured members use, choice of healthcare provider, and engagement in moral hazards practices.

### ***Type of care used by insured NHIS members***

One of the often cited reasons for the use of 'informal care' (i.e. drugstore, herbal medicine and self-medication) is financial barriers to facility-based care, or formal care (Health System 20/20,

2009). Given that the NHIS has reduced out-of-pocket costs of formal care (see section 7.1.1), it was expected that the use of informal care among insured persons would substantially reduce. However, the data suggest that even though there have been an improvement in the use of formal care, the use of informal care is still significant among insured members.

Across the interviews insured respondents were asked about the type of care that they used when they have malaria and whether this has changed since insuring in the NHIS. As shown in Table 9.2, a significant number of respondents across all the socioeconomic groups said they used drugstore care and that this has not changed with the introduction of the NHIS. Most of these respondents acknowledged that they sought formal care only when their condition was very serious or had not improved after using informal care for some time. Ironically, they often preferred to use drugstore for minor illnesses at a fee, when they could get those treatments free from NHIS providers. Most insured respondents reported that they preferred drugstore care because they were relatively convenient, cheaper, and quicker than facility-based care:

*“The queues are too long in the hospital. You need a whole day to see a doctor when you have a simple illness like malaria.... when I have malaria I don’t waste my time to go to the hospital.... I use the drugstores, they treat you very quickly, you can even go to work after that”* (Interview: insured male respondent 033, poor, urban resident)

Although many respondents perceived formal care to be of better quality (clinically), they were willing to compromise on such quality for the convenience that drugstore care provided. Some respondents were also of the view that the standards of care in hospitals were similar to those in drugstores because the latter were manned by competent personnel who worked in the hospitals:

*“The hospitals are better when you have a major problem like operation because they have the equipment to check you and treat you properly. But if I have malaria I don’t need any equipment, I am better off going to the drugstore and getting things done quickly.... [Also] people who man the drugstores are doctors and nurses in the big hospitals....”* (Interview: Insured female respondent 012, poor, urban resident)

Most well-off and the middle class insured respondents acknowledged that convenience was an important determinant of the type of care they sought during illness. They often alluded to their

inability to find time to seek care due to work commitments. In line with this, Jutting (2003) has argued that high income individuals tend to have higher opportunity cost of time due to the economic activities they engage in. In light of the high waiting times in NHIS facilities (see section 8.2.1); many insured members found it more efficient to seek care from drugstores, especially on minor ailments, as that reduced the opportunity cost of seeking care:

*“...the time you spend in the hospital is too much. The 4 or 5 hours you spend there you can use it in the market and earn some money. That is why I usually go to the drugstore.”* (FGD: Insured male participant, middle class, urban resident)

**Table 9.2 Type of care used by insured members in pre and post NHIS periods**

	Pre-NHIS period			Post-NHIS period		
	Formal care (%)	Drugstore care (%)	Herbal treatment (%)	Formal care (%)	Drugstore care (%)	Herbal treatment (%)
<b><u>Socioeconomic status</u></b>						
Well-off	71.4	28.6	0.0	71.4	28.6	0.0
Middle class	50.0	40.0	10.0	72.0	28.0	0.0
Poor	28.6	57.1	14.3	47.9	30.7	21.4
<b>Total</b>	<b>50.0</b>	<b>41.9</b>	<b>8.1</b>	<b>63.7</b>	<b>29.1</b>	<b>7.1</b>

Source: Author’s construct based on interview data

Also, the NHIS did not appear to have had much impact in discouraging the use of herbal/traditional medicine (another form of informal care) among insured members. Some rural and low income insured respondents reported that they often used herbal/traditional medicine in certain illnesses before seeking medical care and that the NHIS had not changed their attitude towards the use of such informal care (see Table 9.3). This was mostly due to such respondents’ perception of illness which was based on the idea that they are caused by evil spirits and therefore could not be treated with formal medicine. Some insured respondents also preferred herbal/traditional medicine because it was cheaper and more convenient to obtain:

*“I have health insurance but sometimes I like to use herbal medicine. There are some diseases when you get them and you go to the hospital you are just wasting your time....”*

*Some of them you just know it is witchcraft so you use herbal medicine.”* (Interview: Insured male respondent 061, poor, rural resident)

Also, it emerged that many individuals preferred herbal/traditional medicine because they perceived them to be more efficacious in treating certain ailments than formal medicine.

The continuous use of informal care by insured members slightly contradict with findings by the Health System 20/20 (2009) which found the use of informal care and self-treatment to have been significantly reduced by the NHIS due to a reduction in out-of-pocket payments for healthcare. Although this thesis supports the Health System 20/20 view of a reduction in the financial barriers to formal care by the NHIS, it asserts that the use of informal care (i.e., drugstore care and herbal/traditional medicine) is still significantly prevalent among insured members.

### ***Choice of healthcare provider***

The NHIS covers healthcare services provided by both public and private providers. Hence, it was expected that insured members would be able to access healthcare from the provider of their choice. However, although the majority of the insured respondents mentioned that they preferred private providers to public ones, less than half of them, mostly middle class, well-off and urban residents, actually managed to use private healthcare when they were ill. Generally, it emerged the type of provider insured members used did not change significantly with the introduction of the NHIS. Most respondents mentioned that they still used the same provider as they did before insuring with the NHIS, although slightly more of middle class respondents used private healthcare in the post NHIS period (see Table 9.4).

In addition, studies have shown that health insurance is likely to motivate individuals to use higher level healthcare, especially if they do not incur extra cost for using them (Acharya *et al.*, 2012). However, it emerged from the interviews that although the majority of insured respondents preferred secondary and tertiary level facilities, only the urban, well-off and middle class respondents managed to use them when they were ill (see Table 9.5). The majority of poor and rural respondents mostly used primary healthcare facilities, and this did not significantly change with the NHIS. This was mainly due to the urban location of the NHIS secondary and tertiary level facilities and the financial cost associated with travelling to use

them. Many insured rural respondents were of the view that it was too expensive to travel to the CBD, where the secondary and tertiary facilities were based, in order to access healthcare:

*“... Although it [health centre – primary facility] is not as good as the facilities in the city, it is the only one we have got here....I haven’t got money to travel to the city, so I just use this one here....”* (Interview: Insured male respondent 063, poor, rural resident)

**Table 9.4 Choice of provider by insured members in pre and post NHIS periods**

	Pre-NHIS use of provider			Post-NHIS use of provider		
	Private (%)	Mission (%)	Public (%)	Private (%)	Mission (%)	Public (%)
<b><u>Socioeconomic status</u></b>						
Well-off	42.9	14.2	42.9	57.2	0.0	42.9
Middle class	30.0	20.0	50.0	40	10	50
Poor	7.1	28.6	64.3	18.6	38.6	42.9
<b>Total</b>	26.6	20.9	52.4	38.6	16.2	45.3
<b><u>Geographic status</u></b>						
Urban	29.4	23.5	47.1	35.3	29.4	35.3
Rural	0.00	21.4	78.5	7.1	21.4	71.4

Source: Author’s construct based on interview data

Also, women, especially rural residents, were more likely to use primary level facilities than men mostly because the latter wrongly perceived those facilities to provide only maternal care. It emerged from the FDGs that men mostly controlled the financial resources and household means of transport. As a result, it was difficult for women in the rural areas to gain access to such resources in order to travel to the urban areas to access healthcare in the secondary and tertiary level facilities:

*“My husband has a motorbike and he uses it for work. So when I need to go for check up I walk to the health centre.... it is not what I like but if you don’t have a means of transport and have no money to take a taxi, what do you do? You just manage with what you have”* (FGI: Insured female participant, poor, rural resident)

**Table 9.5 Insured members preferred provider and type of provider actually used**

	Preferred provider			Actual provider used		
	Primary (%)	Secondary (%)	Tertiary (%)	Primary (%)	Secondary (%)	Tertiary (%)
<b><u>Socioeconomic status</u></b>						
Well-off	0.0	42.9	57.1	14.3	42.9	42.9
Middle class	10.0	30.0	60.0	10.0	40.0	50.0
Poor	21.4	21.4	57.1	64.3	21.4	14.3
<b>Total</b>	<b>10.5</b>	<b>31.4</b>	<b>58.1</b>	<b>29.5</b>	<b>34.8</b>	<b>35.7</b>
<b><u>Geographic status</u></b>						
Urban	10.0	21.0	69.0	23.5	29.4	29.4
Rural	11.0	42.1	46.9	57.1	24.6	14.3

Source: Author's construct based on interview data

In summary, even though the NHIS appears to have reduced the effect of financial barriers to patients' choice of provider, some insured members are still unable to use their preferred provider due to the lack of healthcare facilities, especially in rural areas.

### 9.2.1 Moral hazards in healthcare

Moral hazard in healthcare refers to the tendency of an insured person to increase their consumption of healthcare (*ex-post* moral hazard) or reduce their engagement in preventive health activities (*ex-ante* moral hazard) due to having health insurance. It may also refer to the tendency of a provider to administer greater healthcare to an insured patient in order to profit from the increase consumption (i.e. provider-induced demand). Moral hazard is loathed because it creates frivolous use of healthcare, which could lead to cost escalation and threaten the financial sustainability of the insurance scheme (Morris *et al.*, 2007; Pauly, 1974). The question remains if the NHIS influences individuals to engage in moral hazards? Moral hazards questions are often difficult to answer empirically due to the complexity in determining what level of an individual's healthcare consumption is 'unnecessary'. However, using information on insured members' reasons for using a particular healthcare one can provide useful insight into the prevalence of moral hazards. This was the approach used in this thesis.

### ***Ex-post moral hazards***

It is tempting to assume that the increased in healthcare utilisation following the introduction of the NHIS (see section 9.1) is an indication that insured NHIS members engaged in moral hazards. However, the interview and FGD data suggest that most of the additional increase in healthcare consumption that resulted from the NHIS largely emanated from low income insured individuals who enrolled in the NHIS in order to address their unmet healthcare needs. This was because, unlike the other socioeconomic groups, most low income households could not afford healthcare in the pre NHIS, and thus were now able to utilise healthcare due to the reduction in out-of-pocket payments by the NHIS (see section 9.1):

*“In the past [when I didn’t have health insurance] I didn’t go to hospital very often.... I have hypertension.... I could not afford to go to the hospital because I needed to go there all the time.... But now because of the health insurance I go to see the doctor every month.”* (Interview: insured male respondent 010, poor, urban resident)

It appeared most of the increase in healthcare consumption that resulted from the NHIS was due to the need to address unmet healthcare needs rather than engage in moral hazard. Acharya *et al.* (2012) have argued that most low income households in user fees financing systems often under-utilise healthcare due to financial barriers and thus the removal of fees is likely to lead to an optimal use of care by them.

Another pathway through which *ex-post* moral hazard could have occurred was for insured members to increase their consumption of expensive healthcare services (Yilma *et al.*, 2012). But as section 9.2 showed, although many insured members often preferred to use private and secondary/tertiary level care, some of them could not use such expensive care due to the inadequate availability of healthcare facilities (see section 9.2). Essentially, there was no substantial evidence to suggest that the NHIS significant encouraged insured individuals to use expensive healthcare.

In many SHI systems, cost-sharing mechanisms, such as co-payments, co-insurance and deductibles, are often used to deter *ex-post* moral hazards behaviours (Newhouse, 1993), although such resources have often constrained access to care in many places (Sachs, 2012; Jutting, 2003). Thus, the lack of such cost-sharing mechanisms in the NHIS made *ex-post* moral

hazard even more likely. However, a number of implicit factors prevented insured members from engaging in an ‘unnecessary’ use of healthcare, which seem to explain why ex-post moral hazard appear to be less prevalent among insured members in the Tamale District. One of these factors was the high waiting times associated with seeking healthcare in NHIS facilities. This increased the opportunity cost of seeking care, and therefore created a disincentive for an insured member to seek care when he or she does not actually need it.

*“Because of the long queues I don’t usually go to the hospital... The only time I go there is when I am seriously ill. When you go to the hospital you just know that day you cannot go to work, because you spend the whole day there ... so why should I waste my time [to go to the hospital] when I am not seriously ill?”* (Interview: Insured male respondent 057, poor, rural resident)

Another factor which deterred insured persons from engaging in ex-post moral hazard was the indirect costs of seeking care. This was particularly effective among rural residents due to the high cost of travel to the NHIS facilities:

*“It cost a lot of money to take a taxi to town.... Sometimes you get there and all that they give you is paracetamol, which is less than the amount you spend to travel to the hospital. So there is no reason why I will go to the hospital when I am not sick.”* (Interview: Insured male respondent 047, middle class, rural resident)

However, some insured members experienced relatively lower travel and opportunity costs in relation to seeking NHIS care, and therefore appeared to be likely to engage in ex-post moral hazard, even though this was not widespread. For example, most urban residents, particularly those who were unemployed incurred relatively less travel cost to the NHIS healthcare facilities, hence, the implicit deterrents were less effective on them. Based on this, a few insured members mentioned that they had used NHIS care when they were not actually ill. The remarks of two insured members illustrate this point:

*“...I had just got the [NHIS] card for about a month. Everybody said the health insurance was good and that when you go to the hospital you don’t pay anything. I didn’t believe this so I wanted to try it out, and I went to the hospital and lied to the doctor that I had a*

*back pain. He examined me and gave me some drugs.”* (Interview: Insured female respondent 004, poor, urban resident)

*“It is not fair when you pay the premium but don’t benefit from it, you feel cheated.... The only time I used it, I was not actually sick, but I just went to the hospital to collect some medicine so that we can use it when any of us is sick in future.... ”* (Interview: Insured female respondent 029, poor, urban resident)

Many facility administrators mentioned about the widespread practice of ‘proxy utilisation’<sup>26</sup> and ‘facility shopping’ among insured members. However, it appeared proxy utilisation was mainly a coping mechanism for low income households who could not afford to insure all their members. Facility shopping often occurred because a beneficiary could not afford a particular uncovered service or medicine and therefore visited many facilities to try and get such services or medicine for free. Thus, while these practices may have resulted in an ‘unnecessary’ use of healthcare, they sometimes enabled low income households to address their healthcare needs.

Savedoff *et al.* (2012) have argued that providers in insurance situations have a tendency to prescribe more care to insured patients when the marginal cost of care is being paid by the insurance agency. Such behaviour is often driven by the provider payment system (Zweifel, 2000). However, although the NHIS’ DRG payment system appeared to be susceptible to provider-induced demand due to reimbursement being based on service quantity, there was no evidence to suggest that providers actually engaged in such practices. This was partly due to the presence of certain control measures such as clinical audit and the GSTG which seem to have deterred providers from inducing unnecessary healthcare consumption from insured patients.

Thus, even though ex-post moral hazard was common among insured members, it was not very widespread due to indirect costs associated with seeking NHIS care. This suggests that the economics assumption that individuals would increase their consumption of a particular good when prices are reduced seems less applicable to healthcare. This is because, unlike other

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<sup>26</sup> This refers to the practice where an insured person uses their NHIS card to access healthcare for a sick relative or friend who is not insured. It also refers to the practice of an uninsured person using an insured person’s NHIS card to access care by themselves.

goods, an increase consumption of healthcare does not necessarily yield greater satisfaction or health status.

### ***Ex-ante moral hazard***

A number of studies have suggested that insured individuals are less likely to engage in preventive health activities, especially when such activities involve substantial financial cost to them (Yilma *et al.*, 2012). In order to ascertain the extent to which the NHIS may have influenced such behaviour, insured members were asked about their engagement in health prevention activities in the pre and post NHIS periods. The results suggest that most insured members still engaged in health prevention activities/behaviour as much as they did before they enrolled in the NHIS (see Table 9.6). One of the often cited reasons for this was the fact that the NHIS did not fully compensate for the cost of illness. Thus, most insured members thought it was imperative to protect themselves against illness even when they had health insurance:

*“It is only a fool who will play with their health because they have health insurance.... I still protect my health because I know if I fall sick the health insurance will not pay for the pain. It will not provide food to feed my family. So I don't play with my health.”* (Interview: Insured female respondent 011, middle class, urban resident)

This perception resonates quite well with Kenkel's (2000) argument that health insurance is less likely to stimulate *ex-ante* moral hazard due to the utility loss associated with illness. The NHIS provided an 'incomplete' benefits package such that it did not compensate for the agony and indirect cost associated with illness it covered. Thus, it was rationale that insured members would continue to engage in preventive health activities.

Interestingly, some respondents, especially poor insured members, thought their level of engagement in preventive health activities had increased since the introduction of the NHIS, and mostly mentioned an increase in their use of postnatal and antenatal services:

*“First [before enrolling in the NHIS] we could not protect ourselves, but now we do, because it is free to do check up in the hospital. So I go there [hospital] almost every month, especially when I was pregnant.... It is not that I am not well... it is just good you check yourself... that way you and your child can protected yourselves.... So the health insurance is very good.”* (FGI: Insured female participant, poor, rural resident)

This finding is consistent with Mensah *et al.* (2010) who noted that NHIS insured women were significantly more likely to engage in preventive activities. But it contradicts with those of Yilma *et al.* (2012) who found that in the Eastern Region of Ghana NHIS members were less likely to own or sleep under mosquito bednet, which they used as a proxy for *ex-ante* moral hazard.

**Table 9.6 Perception of insured members about changes in engagement in preventive health activities**

<b>Socioeconomic group</b>	<b>Increased (%)</b>	<b>Same (%)</b>	<b>Reduced (%)</b>
Well-off	0.0	100	0.0
Middle class	20.0	80.0	0.0
Poor	50.0	35.7	14.3
<b>Total</b>	<b>23.0</b>	<b>71.9</b>	<b>5.1</b>

Source: Authors construct based on interview data

Studies have also showed that healthcare providers could engage in *ex-ante* moral hazard by reducing their investment in preventive health programmes, especially if the provider payment system did not reward the delivery of preventive services (Amporfu, 2011). The NHIS benefits package did not cover health prevention and promotion services; it only covered curative care. Despite this, there was no evidence to suggest that accredited NHIS providers had reduced their commitment towards preventive health programmes. Most of the public healthcare facilities had separate funding from the government and donor organisations for preventive health services, and thus such programmes were hardly affected by the NHIS.

### 9.3 Conclusion

The discussion in this chapter has shown that the NHIS has generally improved the utilisation of formal healthcare for insured members. It also found that much of the increase in healthcare utilisation among NHIS members was a reflection of genuine improvement in healthcare access rather than moral hazard. This finding is significant and consistent with several others that have considered the impact of user fees removal on health service utilisation, including those of Powell-Jackson *et al.* (2012) and Gilson and McIntyre (2005). The findings in this chapter also

suggest that low income insured members experienced relatively greater improvement in the use of formal care than other socioeconomic groups due to their greater healthcare needs and previous inability to afford the cost of healthcare services.

The discussion has also shown that contrary to suggestions in the economics literature that the reduction in the cost of goods leads to moral hazards (Allotey, 2012), incidence of moral hazard was very marginal among insured NHIS members in the Tamale District. This was primarily due to the 'incompleteness' of the NHIS benefits package and the indirect cost associated with seeking NHIS care. Also, the NHIS did not seem to have had substantial impact in reducing the use of informal care due to high waiting times in NHIS facilities.

## **PART V: CONCLUSION**

### **Chapter 10: The role of the NHIS in shaping equity of access to healthcare**

#### **10.0 Introduction**

Against the backdrop of recent emphasis on reaching UHC through SHI in low income countries (WHO, 2010), this thesis set out to examine how the NHIS shapes equity of access to healthcare in the Tamale District of northern Ghana. It primarily focused on ascertaining the extent to which the NHIS enables socially disadvantaged groups/individuals to access healthcare in order to address their health needs. In this thesis ‘healthcare access’ was conceptualised to entail: health insurance coverage, affordability of needed healthcare without suffering financial hardships, availability of healthcare services with sufficient quality, and actual utilisation of needed healthcare services. The nature of the NHIS’ impact on these access dimensions determines how it shapes equity in access to healthcare. ‘Equity of access’ was defined as the absence of systematic disparities in healthcare access (or the dimensions of access) skewed against socially disadvantaged groups (i.e. low income households, rural residents, women and informal sector workers) (see section 4.1).

This chapter reviews key findings of the thesis in relation to the study objectives delineated in section 1.6. In addition, it outlines reflections on the role of the NHIS in achieving UHC in Ghana, the policy implications of the findings, the contribution of the thesis to knowledge, and propositions for future research.

#### **10.1 Uptake of NHIS insurance**

The conventional assumption for establishing the NHIS is that it would enable a greater number of individuals to obtain health insurance due to its ‘low’ premiums and non-risk based enrolment principles. Insurance coverage would in turn enable individuals to afford needed healthcare (Wiesman and Jutting, 2001). Thus, an equitable uptake of NHIS is likely to result in an

equitable access to healthcare. Universal NHIS coverage is considered the ultimate goal for achieving UHC (and equitable access to healthcare) in Ghana because with it every individual can be assured access to the healthcare services that they need (GOG, 2003; MOH, 2004). Although there are caveats to this assumption based on the need for adequate availability of healthcare services for access to be fulfilled (see chapter 8), one of the key areas that this thesis examined was the extent to which the NHIS facilitates equitable access to health insurance ( and universal health insurance coverage for that matter).

The findings showed that in 2011, the NHIS achieved coverage of 22 percent of the total population of the Tamale District. Although no district baseline data existed to determine the actual impact of the NHIS on insurance coverage in the Tamale District, the Ghana Demographic and Health Survey (GDHS) suggests that less than 5 percent of the population in the Northern Region (where Tamale District is located) had some form of health insurance (private health insurance and CBHI) prior to the introduction of the NHIS (GSS, 2003). Based on the regional baseline, it can be inferred that the NHIS has comparatively improved insurance coverage in the Tamale District. The primary reason for this improvement was because the NHIS, unlike the private insurance and CBHIS that existed prior to it, is based on subsidised premiums which enabled some low income individuals to be able to afford enrolment. Also, the NHIS increased the supply of health insurance and demystified the stereotype that health insurance is the preserve of well-off individuals. The achievement of 22 percent coverage in seven years seems remarkable based on the standard of low income countries, especially given the income constraints of households in the Tamale District. However, what remains critical is the extent to which socially disadvantaged groups are able to enrol in the NHIS given that they previously had little access to health insurance in the Tamale District (GSS, 2003).

The evidence presented here suggests that the uptake of the NHIS in the Tamale District is largely inequitable, with socially disadvantaged groups less able to enrol. Both enrolment and renewal were driven by socioeconomic, occupation and geographic attributes, with low income households, informal sector workers and rural residents systematically less able to enrol and renew. The reasons for the low NHIS uptake among the disadvantaged groups are manifold and complex, but are essentially limited to both low *willingness* and low *ability to enrol* in the NHIS. Most low income households and rural residents in the Tamale District engaged in informal economic activities, mainly subsistence farming and petty trading, and therefore had lower incomes, which constrained their ability to afford the cost of enrolment. The unaffordability of the

enrolment cost by low income households was not just about high premiums, but more importantly because their income constraints increased the opportunity cost of enrolment. As a result, low income households tended to relegate health insurance to a 'secondary' need. They felt obliged to spend their meagre incomes on immediate needs rather than NHIS insurance, whose benefits are mainly futuristic.

Another key reason which explains the low uptake of the NHIS by socially disadvantaged groups was cultural resistance to the NHIS. Most individuals in the Tamale District found existing informal social protection mechanisms such as reciprocal support among friends and family, savings and sale of assets as more flexible and cost effective for dealing with future healthcare cost than the NHIS which is based on yearly regular payments. Similarly, the concept of the NHIS which is built around access to formal healthcare appeared to be less useful within the cultural context of Tamale District where there was a pervasive belief that certain illness are caused by evil spirits and therefore require supernatural intervention rather than medical care. Also, due to high illiteracy, most socially disadvantaged individuals tended to misperceive their level of health risk as lower. These factors resulted in some socially disadvantaged groups to accord less value to health insurance and therefore a low willingness to enrol in the NHIS.

There were also supply-side factors which constrained both the willingness and ability to enrol in the NHIS by socially disadvantaged groups. First, most low income households were poorly informed about the principles and terms of operation of the NHIS and therefore were less persuaded of its benefits and unable to participate effectively in it. Also, the under-provision of NHIS enrolment and healthcare resources in remote rural areas increased the transaction cost of enrolment and of use of NHIS healthcare services for rural residents, which discouraged many rural residents from enrolling. Although enrolment in the NHIS was partly influenced by individuals' willingness based on their evaluation of the value of the NHIS (psychological factor), such decisions were shaped by their economic situation, knowledge about the NHIS, cultural beliefs, and the availability of healthcare services (see section 6.2). These factors collectively explain the low uptake of the NHIS insurance by socially disadvantaged groups.

This finding is significant because most previous studies have tended to attribute the low enrolment in the NHIS to high premiums, without paying much attention to the psychological factors that shape individuals' decision to enrol or not (Amporfu, 2013; Asante and Aikins,

2008). As a result, the policy interventions to promote greater enrolment in the NHIS have mainly focused on supply-side measures such as premium subsidisation and exemptions. While such measures are useful, they fail to address the structural causes of the problem. Also, the exemption policy that was initiated to facilitate enrolment among low income households has been hampered by design and implementation bottlenecks, including poor beneficiary identification criteria and a lack of awareness about the exemption policy.

Owing to data constraints it is difficult to predict the NHIS' coverage in the future, including its potential for achieving near universal insurance coverage in the Tamale District. However, the available evidence suggests a decline in enrolment and renewal, suggesting very little prospect of achieving universal insurance coverage. It appears the district coverage level had peaked at 22 percent, and likely to remain the same or decline in the near future. Given the greater influence of economic factors in individuals' willingness and ability to enrol, progress towards universal or near universal insurance coverage would depend on the extent to which the economic conditions of low income households are improved. This observation resonates with Carrin's (2003) view about the significance of high income as precondition for an effective SHI scheme (see section 1.2). But unlike Carrin who perceived high income as just a facilitator of premium payment, this thesis finds that it also enables individuals to develop a positive attitude towards health insurance and an increase willingness to enrol.

## **10.2 Affordability of healthcare**

Insurance coverage is supposed to offer financial access to healthcare to the insured person. Hence, chapter 7 of this thesis examined the extent to which the NHIS impacts on the affordability of healthcare. The findings show that while enrolment was relatively lower among socially disadvantaged groups, it substantially improved the financial ability of insured members to access needed healthcare services, especially low income individuals who managed to enrol. The NHIS also appeared to have reduced insured members' exposure to catastrophic healthcare expenditure. These improvements were largely due to a reduction in out-of-pocket cost of accessing healthcare due to the NHIS' coverage for the direct cost of most healthcare services and medicines. The NHIS did not appear to have had significant influence on supply-side healthcare costs by providers. Low income individuals had less financial access to healthcare prior to NHIS, as a result, the NHIS' coverage of the direct cost of care had a

relatively greater positive impact on their ability to afford healthcare compared to other socioeconomic groups.

However, a particularly significant finding was the continuing phenomenon of catastrophic expenditure among insured low income members. This was mostly caused by the cost of uncovered healthcare services and medicines as well as informal payments in healthcare facilities. These catastrophic payments underscore the need to revise the composition of the NHIS benefits package to reflect healthcare services and medicines that are most needed by the population.

### **10.3 Availability and quality of healthcare services**

One of the pathways through which SHI impacts on healthcare access is through improved availability and delivery of healthcare services. This is essential to ensure that insured individuals are able to use the financial access gained from the insurance coverage to fulfil their healthcare needs.

The evidence from insured members and healthcare providers suggests that the NHIS had both positive and negative impact on the availability and quality of healthcare services. On the one hand, it led to improvements in the cashflow of providers which enabled most of them to expand their healthcare resources, including medical equipment, medicine and medical consumables. This generally improved the quality of and access to healthcare services. Also, the improvement in providers' income enabled some private providers to hire and motivate more healthcare workers, which contributed to improving the delivery of better healthcare services.

However, the expansion in healthcare resources failed to keep up with a substantial increase in demand for care prompted by the NHIS, which created quality issues. Particularly, there was a general shortfall in the availability of healthcare facilities and healthcare workers, which culminated into long patient waiting times, severe staff overload, and poor patients contact experience with health workers. The lengthy waiting times also facilitated a culture of informal payments, which created socioeconomic disparities in the standard of care that insured patients received in NHIS facilities. High income individuals who were able to afford informal payments improved their healthcare experience at the expense of poor insured patients. Lengthy waiting

times also had a negative impact on NHIS enrolment particularly among high socioeconomic households whose greater participation in the NHIS was needed to facilitate effective cross-subsidisation and financial sustainability of the scheme.

Beyond the socioeconomic disparities, there was also geographic inequality associated with the NHIS' impact on the availability of healthcare. Most healthcare facilities were based in urban areas, and the NHIS failed to create a substantial increase in the establishment of new healthcare facilities in rural areas. Government mostly relied on existing facilities to deal with the increased demand for healthcare that resulted from the NHIS. Thus, the improvement in the cashflow of providers meant that the predominantly urban-based facilities were able to provide relatively better services for their clients, which reinforced geographic inequities in healthcare access. Also, the NHIS' tariff structure favoured private and high level providers which enabled them to provide better healthcare services for their clients, who were mostly well-off and urban based. Lower level facilities such as health centres, which were used mostly by disadvantaged groups, were reimbursed on a lower tariff and thus were unable to improve their services for such clients.

Proponents of SHI have argued that it enhances the quality of healthcare delivery through active purchasing (Bauchet *et al.*, 2010). Active purchasing is the tendency of an insurance provider to leverage healthcare providers through rewards and sanctions in its reimbursement system in order to achieve certain healthcare objectives. Although the NHIS appeared to have the potential to improve the availability and delivery of healthcare services through active purchasing due to its huge healthcare market size, it did not. It focused mostly on the mobilisation of financial resources and the delivery of healthcare services without much attention to the availability and quality of healthcare services. The DRG provider payment system that was used by the NHIS had unintended adverse consequences on healthcare quality. This is because claims payments were based on the quantity rather than the quality of services delivered by the provider. It is not entirely clear why the scheme administrators were apathetic towards active purchasing, but it appeared to be partly because purchasing decisions were made centrally, with district scheme administrators having less influence. In addition, the DMHIS was not incentivised or held accountable for the quality of healthcare services that accredited providers delivered. Healthcare issues were mostly considered as the responsibility of the Ghana Health Services.

Thus, while the NHIS improved the financial resources of facilities, it appeared to have impacted negatively on the quality of healthcare services due to an increased demand for healthcare which was not matched with an appropriate level of supply of healthcare resources. Such availability and quality issues had negative repercussions on healthcare access as some insured rural residents and low income households were mostly able to fulfil their healthcare needs. This suggests that while the NHIS promotes equity in financial access to healthcare, it is less able to address inequities in the availability and quality of healthcare for individuals.

#### **10.4 Utilisation of healthcare services**

Notwithstanding the paucity of healthcare resources, the NHIS appeared to have generally improved the utilisation of formal healthcare, particularly among urban residents mainly due to improvements in healthcare affordability. The introduction of the NHIS coincided with a substantial increase in the utilisation of outpatient healthcare services in most facilities, suggesting the influence of the NHIS. There is often scepticism over the extent to which an increase in healthcare utilisation under insurance regime is not due to frivolous use (i.e. moral hazards) (Thiede *et al.*, 2007). However, it was found that increased healthcare utilisation in facilities in Tamale District was largely a genuine reflection of improvement in access to formal healthcare rather than a moral hazard.

Owing to the lengthy waiting times in healthcare facilities, the improvement in financial access did not substantially reduce the use of informal forms of care such as drugstore and herbal/traditional medicine. This suggests the need for measures that seek to address the use of informal care to take into account quality issues associated with formal healthcare. In addition, although the NHIS expanded access to private healthcare facilities by minimising financial barriers, insured low income households did not benefit greatly from such improvements due to poor knowledge about the NHIS benefits package.

Another significant finding was that, contrary to the commonly held belief that individuals will engage in greater frivolity (moral hazard) in the use of healthcare when user fees are removed or minimised, moral hazard was relatively minimal among insured members in the Tamale District even though no cost-sharing measures applied to the use of NHIS care. The reason was mainly due to the presence of 'latent' factors, such as the opportunity cost associated with the

lengthy waiting times in healthcare facilities and the cost of travelling to access NHIS care, which discouraged most insured members from engaging in moral hazards.

## **10.5 Policy implications**

The findings of this thesis have several policy implications for promoting greater equity of access to healthcare through the NHIS.

As a long term measure to facilitate greater NHIS coverage among socially disadvantaged groups, policy interventions need to be directed at improving the economic conditions of low income households. This will enable low income individuals to afford the NHIS premium and also minimise the opportunity cost of enrolment. Thus, this could improve both the willingness and ability to enrol in the NHIS.

As a short term measure, policy interventions need to lessen the financial burden of premium payment and make it easier for low income households to insure. This may include allowing for flexible premium payment where individuals could pay in kind and piecemeal form. The downside is the high administrative cost this could generate, but such cost can be minimised by encouraging low income individuals to join credit associations, and tasking such associations to collect members contributions (piecemeal or in-kind) and pay up the premium when enough contributions have been collected. Such credit associations should also be encouraged to provide members with the opportunity to engage in reciprocal contribution in support of one another to enrol in the NHIS.

In addition, it is important to expand NHIS enrolment resources in rural areas to reduce the transaction cost of membership for rural residents. To do this, the NHIA can liaise with rural healthcare posts and community health workers, who already have greater presence in remote areas, to enrol rural residents. The NHIS Community Enrolment Officers also need to be properly resourced to enable them reach and serve rural population more effectively. The targeting criteria for identifying indigents for the premium exemption needs revision, taking into account local definitions of indigents. Education and awareness creation around the concept of health insurance and the specific terms of the NHIS as well as health risks are critical in facilitating greater enrolment among socially disadvantaged groups.

The availability of healthcare facilities, particularly in rural areas, as well as healthcare resources in existing NHIS facilities need to be expanded. This is important to minimise the indirect cost of seeking care, and ultimately persuade individuals about the value of the NHIS. It is equally important to improve the quality of healthcare services, including reducing the waiting times and improving patient contact experience with healthcare workers. To do this, the NHIA could consider accrediting selected drugstores, and liaising with the MOH to equip and train them to provide basic primary healthcare services such as malaria treatment which account for most outpatient attendance. A change from the current manual claims management system to a computerised one would be another significant solution. This would lessen the administrative duties of health workers and enable them to focus more on clinical duties and also free up resources for providers to invest into improving healthcare services. Also, providers need to restructure the way patients are managed during healthcare seeking, including introducing an appointment system for out-patient services. This will enable providers to efficiently manage their resources and improve the quality of service delivery.

NHIA should pursue active purchasing by using its purchasing 'power' to leverage healthcare providers to improve the availability ( especially in rural areas) and quality of healthcare services. To do this, the NHIA should consider rewarding providers who serve rural and vulnerable populations by paying them higher tariffs or lessen the accreditation requirements for establishing healthcare facilities in marginalised areas.

Lastly, in order for the NHIS to enhance greater financial protection within the resource constrained environment it finds itself, policy makers should regularly review the composition of the benefits package to ensure that it covers greater healthcare needs of low income households.

## **10.6 Future research**

The findings suggest the need for further research in certain key areas to enhance knowledge around the effects of the NHIS on equity of access to healthcare. First, given that individuals' decision to enrol in the NHIS is often made at the household level, it would be useful to examine how decisions are made and priorities set at the household level, particularly, in relation to

health insurance. This would shed more light on household factors that shape insurance coverage. Secondly, research is needed to identify effective mechanisms that can be used to identify or target poorest people for premium exemption in low income and informal economic settings. Such information would help to improve the implementation of the NHIS exemption policy for indigents. Thirdly, given that the NHIS has been established for nearly a decade now (2013), an examination is needed of its impact on health status and wellbeing, including the equity aspects of these. Fourthly, the financial sustainability of the NHIS also needs to be examined, particularly in respect of sources of funds and the benefits package as well as the equity implications of those dimensions. This is important in shedding light on the extent to which universal insurance coverage can be achieved through the NHIS.

## **10.7 Originality and contribution to knowledge**

This thesis has contributed new knowledge on the impact of the SHI on equity of access to healthcare in low-income settings. It has shown that the NHIS can enhance greater equity in access to care if opportunities are created to enable socially disadvantaged groups to insure as well as improve the availability and quality of healthcare services for insured members.

The thesis also found that the low participation of socially disadvantaged groups in the NHIS is not just due to high premiums, but most importantly a low willingness to enrol in the NHIS. It suggests that such behavioural factors (low willingness to enrol) are shaped by individuals' expected benefit from the insurance, which are in turn influenced by their social, economic, literacy, and health condition as well as NHIS and healthcare system characteristics.

This thesis demonstrates that although the NHIS improves the affordability of healthcare, there is still catastrophic expenditure associated with it. It has also showed that while the NHIS has improved the financial resources of healthcare it has had a negative impact on the quality of healthcare services. Equally important is the finding of low moral hazard practices among insured NHIS members in the Tamale District which is primarily due to the incompleteness of the NHIS benefits package and greater indirect costs associated with seeking NHIS care.

Finally, this thesis has provided a novel conceptual framework for evaluating the impact of SHI on equity of access to healthcare, which dwells on four key dimensions of access and allows

equity of access to healthcare to be examined holistically. The analytical framework used in this thesis demonstrates how equity of access to healthcare can be examined with a qualitative research approach.

## **10.8 Reflections on the role SHI in achieving UHC in Ghana**

As discussed in section 1.1, the recent emphasis on SHI for achieving UHC in low income countries is mainly as a result of the failure of other financing mechanisms such as out-of-pocket financing and tax-based system. SHI has been advocated to promote the UHC objectives (i.e. financial protection against healthcare cost and access to quality healthcare for all) because it facilitates greater risk sharing (and subsequently, cross-subsidisation of healthcare cost) and mobilises adequate financial resources for the health system (Carrin, 2004). However, the findings from this study raise the question of whether SHI is the right financing option for achieving UHC in Ghana? This section reflects on the question based on the study findings.

The achievement of UHC through SHI, as indicated in section 10.1, depends on attaining universal Insurance coverage. This means that achieving a situation where everyone (or almost everyone) in Ghana has health insurance. This is because based on SHI arrangements, individuals need to be insured before they can access healthcare services provided by the SHI system. In a normal SHI system, attaining universal insurance coverage should not pose greater difficulties because membership is mandatory and enforced accordingly. But in Ghana, even though NHIS enrolment is supposed to be mandatory, it is hardly enforced among individuals who work outside the formal sector. As the findings of the study have shown, most individuals in low income contexts are either self-employed or unemployed and therefore are mostly unable to afford the cost of enrolment due to low and precarious income. Also, the insurance agency (i.e. the NHIA) is unable to access individual's income in order to deduct contributions from source or means-test to provide premium subsidies to enable the poorest to enrol. As a result, the NHIS operates a *de facto* voluntary SHI scheme, which is both ineffective and inefficient to attain universal insurance coverage. The WHO (2010) has noted that countries that operate voluntary health insurance schemes are less likely to achieve UHC.

It appears that the realisation of universal insurance coverage in Ghana would partly depend on achieving greater economic development. This is essential to improve household income so that most people can afford the NHIS premium and also for jobs to be formalised to enable the effective enforcement of mandatory enrolment. However, the level of economic development required to achieve universal insurance coverage takes so long to accomplish. In most developed countries in Asia and Europe where UHC have been achieved through SHI, it took an average of 70 years of sustained economic growth to achieve universal insurance coverage (Carrin, 2004). This seems to make the prospects of achieving a universal insurance coverage in Ghana through the NHIS in the near future less promising.

Given the high level of poverty, premium subsidisation (either fully or partially) has often been proposed as an effective measure to accelerate the achievement of universal insurance coverage among informal sector workers. The key challenge with this proposition is that it requires huge financial resources which government may be unable to afford, especially given that more than three-quarters of Ghana's working population work in the informal sector. Although government is currently subsidising the premiums of informal sector workers, these subsidies could support only about 35 percent of the population to enrol in 2012 due to funding shortfalls (NHIA, 2012). The financial constraints of this approach suggest the need for additional financial resource mobilisation by government and an expansion of the subsidies in order to achieve substantial impacts. The premium subsidisation approach also raises equity concerns. The lack of income data on individuals in the informal sector means that the subsidies have to be applied universally to all informal sector workers in order to achieve efficient and effective outcomes in coverage. However, such a universal targeting approach could lead to subsidising the premiums of rich informal sector workers, which most formal sector workers are likely to find unfair.

Beyond the macro-economic factors, insurance coverage in Ghana is also hampered by adverse behavioural and cultural factors which make it difficult to achieve universal insurance coverage through the NHIS. Adverse selection is a common feature of the NHIS which undermines universal coverage as well as the financial sustainability of the NHIS. The NHIA is currently grappling with this problem due to the voluntary nature of enrolment in the scheme. There is also a general reluctance by many people to insure due to a high opportunity cost of enrolment. Most poor people are understandably less likely to prioritise health insurance because they are unable to meet their basic needs such as food and shelter (Ahuja & Jutting,

2004). As Maslow's (1943) motivation theory would suggest, health insurance is a safety need and therefore individuals would want to adequately meet their physiological needs (e.g. food, shelter) first before deciding to obtain health insurance. In addition, the idea of health insurance seems alien to many people because it does not conform to existing informal arrangements of social security. These structural factors raise doubts over the extent to which universal insurance coverage can be achieved in Ghana even if the premium subsidisation approach is expanded.

Another determinant of the extent to which SHI impacts on UHC is the depth of services that the SHI scheme covers. There is no template for the benefit services for SHI schemes, but it seems obvious that the wider the range of services covered the better the potential of the SHI scheme to facilitate greater financial protection. The NHIS covers a wide range of inpatient and outpatient healthcare services. Although this has significantly improved the financial protection of most members, it appears there is still room for improvement for it to adequately meet the healthcare needs of the population and provide greater protection against catastrophic healthcare cost. There are already concerns over the financial sustainability of the NHIS' 'generous' package and a further expansion of the package would require the mobilisation of additional financial resources either through increased premiums or tax revenue. While the latter option is feasible, it seems under the current economic conditions it would take several years to generate sufficient resources to finance a comprehensive benefit package for all. On the other hand, increasing the NHIS premium is likely to further exclude poor people from enrolling in the NHIS. Therefore, there is a trade-off between financial sustainability and increased financial protection which policymakers will have to grapple with in an effort to achieve UHC through the NHIS.

UHC also entails the provision of quality health services for all. The effect of SHI on the quality of healthcare services depends partly on the extent to which it improves (or otherwise) on the health resources of facilities. Proponents have argued that SHI schemes would generate greater financial resources due to an increased in the purchase of health services. However, the findings of this study show that while this is partly true, the expansion of healthcare resources often fails to be commensurate with the level of demand for healthcare services. Besides, the increase in financial resources of healthcare providers comes with a corresponding increase in the expenditure on services which means that there is less net income for facilities to improve on the quality of health services. In most cases, particularly in rural areas, insured members

often lack adequate access to needed healthcare services due to a poor availability of healthcare facilities.

In comparative terms, SHI seems to be better at promoting UHC than out-of-pocket financing because it offers greater financial protection and access to healthcare. However, the presence of premium payment makes SHI a *de facto* out-of-pocket system, because individuals need to pay the premium to be able to benefit from the financial protection and healthcare access that SHI schemes provide. Regrettably, in Ghana the majority of the population are unable to afford the NHIS premiums which undermine the ability to achieve UHC. On the other hand, tax-based financing guarantees universal 'health insurance' coverage, more progressive and provides a greater degree of risk pooling. Most of the advantages of SHI in relation to UHC (e.g. risk sharing and cross-subsidisation) in low income countries can be harnessed more effectively through tax-based financing. In developed economies, SHI could bring additional benefit by making both employers and employees, who are mostly based in the private sector, to contribute additional resources for health. But in Ghana, where the state is the largest employer in the formal sector, not much additional resources can be mobilised through the NHIS.

The comparative advantage of tax-based financing over SHI makes one wonder why the latter is advocated for Ghana rather than the former. One of the key scepticisms over tax-based financing is due to the financial sustainability issues associated with it. This is rightly so given that in Ghana even when only a third of the population have access to 'free' healthcare; the healthcare system is already over-stretched and struggling to cope with the high demand for healthcare services. However, the achievement of a universal free healthcare in Sri Lanka and Botswana through tax-based financing (Rannan-Eliya, 2009) show that tax-based financing could work in Ghana if properly organised. Perhaps, this would require employing alternative sources of finance beyond the conventional general tax revenue that is currently used.

In summary, the success of SHI is dependent on certain preconditions. The most essential of these conditions are large formal employment sector, a lower rate of income poverty, and high economic growth (Hsiao and Shaw, 2007). Ghana's economy lacks these essential conditions that would enable NHIS to achieve UHC. The lessons drawn from the developed countries where SHI has succeeded suggest that SHI takes a very long time to achieve UHC. SHI seems to be a long term project for achieving UHC. In view of this, policymakers in Ghana need to

make a decision over whether they want to achieve UHC in the long term or in the short term. SHI should be seen as more of a long term solution rather than a short term one.

## **10.9 Conclusion**

This thesis has shown that the NHIS has improved financial access to healthcare for insured members, and therefore, has the potential to address inequities in access to healthcare in Ghana. But a greater realisation of the equity potential of the NHIS depends on attaining universal insurance coverage. However, given the level of poverty in the Tamale District, it appears the NHIS may not achieve universal insurance coverage (i.e. in Tamale District) in the short to medium term unless the economic conditions of low incomes households are improved. Thus, to promote greater equity of access to healthcare through the NHIS, policy makers need to concentrate on expanding the breadth of coverage particularly among socially disadvantaged groups as well as improving the availability and quality of healthcare services.

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# Appendices

## Appendix 1 Consent form

You are invited to participate in this study which looks at the role of the National Health Insurance Scheme (NHIS) on equity of access to healthcare. This study is being conducted by **Yussif Alhassan** as part of a Doctor of Philosophy (PhD) course in London Metropolitan University, UK.

### A. Study topic

The role of the National Health Insurance Scheme on equity of access to healthcare.

### B. Purpose of study

The purpose of this study is to examine if the NHIS promotes equitable access to healthcare in the Tamale District

### C. Procedure of participation

If you agree to participate in this research, you would be asked to do the following:

1. Allow to be interviewed about the NHIS
2. Allow the interview to be recorded.

### D. Duration of interview

This interview will last no more than 1hour 30 minutes.

### E. Rights, risk and safeguards

1. There are no known risks and costs associated with participating in this study to the organisation and/or its employees.
2. You may decide to discontinue your participation in the interview at any stage if you find it discomforting along the way.
3. Any information that is obtained from you will be treated in the strictest confidence. And until your permission is sought no such information will be published with your identity.
4. You can choose not to answer any questions that you are not happy with.
5. This study is due to be completed by December, 2013. After this time you can request for findings/recommendations of the study to be sent to you via email. Such request should be sent to me at [REDACTED]. Alternatively, you can access the full thesis from the London Metropolitan University library or the British library.

### F. Ethical clearance

Ethical clearance for this study was obtained from the Noguchi Memorial Institute and Medical Research, University of Ghana. You can contact them on the following: [REDACTED], tel: [REDACTED]

### G. Contact of investigator

If you have any questions about this study, you may contact me on the following contact details. Yussif Alhassan (primary researcher), email: [REDACTED], [REDACTED]

### H. Consent - Please tick as appropriate

I have read and understood the above instruction/ the above instruction has been translated and explained to my full understanding and I **accept** to participate in the research

I have read and understood the above instruction/ the above instruction has been translated and explained to my full understanding and I **decline** to participate in the research

Sign/thumbprint..... Date.....

## **Appendix 2 Interview guide - NHIS Administrators**

### **A. NHIS coverage?**

1. Enrolment - year by year from 2005 –till data
2. Enrolment according to membership type
3. Number of people enrolled

### **B. Enrolment**

4. How do you enrol people into the NHIS scheme?
5. How do you enrol exempt members?
6. How do you identify an indigent?
7. How much does it cost to become an NHIS member?
8. Do you have any support programme for people who are struggling to pay their premiums?
9. What challenges do you face in enrolling individual into the scheme?

### **C. Information**

10. How do you raise awareness about the NHIS?
11. How are NHIS members educated about their insurance?
12. How do people make enquiries about their health insurance?
13. How do people make complaints about the NHIS?
14. How do you deal with enquiries and complaints about the NHIS?

### **D. Benefits package**

15. What benefits does this scheme cover?
16. How did you determine the benefit package?
17. What services do you think should be added to the NHIS benefit package?

### **E. Health service provision**

18. Does this scheme play any role in choosing health service providers? If yes, explain how
19. What criteria are used to choose health service providers?
20. How does this organisation monitor NHIS health service providers?
21. How does this organisation deal with non-compliance (of terms of service provision) by NHIS healthcare providers?

### **F. Claims Reimbursement**

22. How do you reimburse healthcare providers?
23. What challenges do you face (if any) in reimbursing service providers?

## **Appendix 3 Interview guide – Providers**

### **Facility administrators**

#### **A. Healthcare resources**

1. What are your main sources of income?
2. Do NHIS make any payments for healthcare services? If yes, please mention
3. How has the NHIS affected the financial resources of this facility?
4. How does the NHIS reimburse you?
5. What challenges (if any) do you face in your claims reimbursement?
6. How do you spend your NHIS income?
7. How has the NHIS affected the availability of drugs in this facility?
8. How has the NHIS affected the availability of medical supplies
9. How has the NHIS affected the medical equipment in this facility?
10. How has the NHIS affected the availability of medical staff in this facility?

#### **B. Healthcare quality**

11. How has the NHIS affected the quality of healthcare in this facility?
12. How affected patient's waiting times in this facility?
13. What mechanisms do you have in place to improve patients waiting time?

#### **C. Use of healthcare services**

14. How has the NHIS affected the use of healthcare services by patients in this facility?
15. How does this facility cope with the increase in health service utilization?
16. Do NHIS members abuse the healthcare benefit service? If yes, please provide examples
17. How do you deal with the abuse of healthcare by NHIS members?

#### **D. Complaints**

18. How do patients make complaints in this facility?
19. How does this facility deal with complaints in this facility?

### **Healthcare workers**

1. How has the NHIS affected your work?
2. How has the workload affected your work?
3. How do you deal with the increase in workload (if any)?
4. How has the NHIS affected your contact experience with patients?
5. How has the NHIS affected your motivation to work?
6. What challenges you face in providing healthcare services to your patient?

## Appendix 4 Interview guide - Insured respondents

### A. Background Information

1. Respondent's number.....
2. Sex: Male  Female
3. Education: No education  Primary  Middle/JSS/JHS  Secondary/A 'Level/SHS   
Above Secondary/A 'Level/SHS
4. Type of occupation in last 12 months: Formal  Informal
5. Type of NHIS membership: Informal adult  SSNIT contributor  SSN   
pensioners under 18 years exempt  Indigent exempt  70 years + exempt   
pregnant women exempt
6. Socioeconomic status: Poor  Middle class  Well-off
7. Residential location: Rural  Urban

### B. Enrolment

1. What do you understand about the NHIS?
2. How did you learn about the NHIS?
3. What is your understanding on the following areas: existence of the NHIS, how to renew, exemption of the poor, benefit package, and how to access NHIS care.
4. Why did you enrol in the NHIS?
5. How much did you pay to enrol in the NHIS scheme?
6. Did you need financial support to enrol? and where did you get it from ( if any)?
7. How much did you pay to renew your NHIS membership this year?
8. Did you need any financial support to renew your membership and where did you get it from (if any)?
9. What problems (if any) did you face in enrolling in the NHIS?
10. Now that you are a member, how do you learn about your health insurance (NHIS)?
11. How do you make enquiries about the NHIS?
12. How do you make complaints about the NHIS?

### C. Affordability of healthcare

13. How has the NHIS affected your ability to healthcare (outpatient and inpatient)?
14. How has the NHIS affected your expenditure on healthcare?
15. Do you still face high healthcare cost? What causes these costs?
16. How do you deal with high healthcare cost?

**D. Availability of healthcare**

17. What is your perception about the availability of healthcare providers?
18. How has the NHIS affected the availability of healthcare providers?
19. Do you think the NHIS has affected the availability of: medicines, medical consumables, equipment in healthcare facilities?
20. Do you have any difficulties getting your prescription medicine?
21. Do you have any problems accessing NHIS care? If yes please mention them.
22. How will you describe your contact experience with health workers?
23. How do you think the NHIS has affected your contact experience with health workers?

**E. Healthcare utilisation**

24. How has the NHIS affected your use of healthcare services?
25. Which healthcare provider do you prefer to use when you are ill?
26. Which healthcare provider do you use when you are ill?
- 27.** Has the healthcare provider you use changed since enrolling in the NHIS?

**F. Complaints**

- 28.** How do you make complaints about the healthcare you receive from providers?

## Appendix 5 Interview guide - Uninsured respondents

### A. Background Information

8. Respondent's number.....
9. Sex: Male  Female
10. Education: No education  Primary  Middle/JSS/JHS  Secondary/A 'Level/SHS  
Above Secondary/A 'Level/SHS
11. Type of occupation in last 12 months: Formal  Informal
12. Socioeconomic status: Poor  Middle class  Well-off
13. Residential location: Rural  Urban

### B. Enrolment

1. What do you understand about the NHIS?
2. How did you learn about the NHIS (if any)?
3. What is your understanding on the following areas: existence of the NHIS, how to renew, exemption of the poor, benefit package( if appropriate), and how to access NHIS care (if appropriate)
4. Why you are not enrolled in the NHIS?
5. (For individuals who cite financial reasons for non-enrolment) if you were given a gift of GHs100 what would you spend it on?
6. What challenges did you face in trying to enrol in the NHIS (if any)?
7. What effort did you make to try to address the problems that are stopping you from enrolling in the NHIS?

### C. Affordability of healthcare

8. How do you pay for your healthcare?
9. Do you have any difficulties in paying for your healthcare?

### D. Availability and use of healthcare

10. What is your perception about the availability of healthcare providers?
11. Do you think the introduction of the NHIS has affected the availability of healthcare providers for you?
12. Do you think the introduction of the NHIS has affected the availability of: medicines, medical consumables, equipment in healthcare facilities for you?
13. Do you have any problems accessing NHIS care? If yes please mention them?
14. How will you describe your contact experience with health workers?

15. How do you think the introduction of the NHIS has affected your contact experience with health workers?

**E. Complaints**

16. How do you make complaints about the healthcare you receive from providers?

**Appendix 6 Question guide – Focus group discussion**

**A. Insured**

1. What do you understand about the NHIS?
2. How did you learn about the NHIS?
3. Why did you enrol in the NHIS?
4. What problems (if any) did you face in enrolling in the NHIS?
5. What problems (if any) you have with your NHIS membership?
6. How has the NHIS affected your ability to healthcare (outpatient and inpatient)?
7. How has the NHIS affected the availability of healthcare services (providers, medicine, medical supplies) to you?
8. How has the NHIS affected health workers attitude towards you during healthcare?
9. How has the NHIS affected your use of formal healthcare services?

**B. Uninsured**

1. What do you understand about the NHIS?
2. How did you learn about the NHIS?
3. Why you are not enrolled in the NHIS?
4. What problems (if any) did you face in enrolling in the NHIS?
5. How do you pay for your healthcare?
6. Do you have any difficulties in paying for your healthcare?
7. What problems do you face in accessing NHIS care?

## Appendix 7 Socioeconomic groups and their characteristics in Tamale District

Socioeconomic category	Urban characteristics	Rural characteristics
<i>Bun-daamba</i> (well-off)	Diversified income sources; self-sufficient; mostly males; have 2 or more wives; have many children; live in 'self-contained' houses; have many properties such as houses and vehicles; mostly building contractors; mostly business owners; politically and economically well connected, have children who are well educated, live abroad or rich; well respected in the community; and not highly educated; sometimes well educated and occupy higher formal position (e.g. directors, managers).	Live in cement houses roofed with aluminium zinc; have many assets such as houses, cattle, sheep; grinding mill; own big acres of farm (10 - 20 acres) and can afford fertiliser and other farm inputs; have enough to eat; have children living in the cities in Southern Ghana; well respected; have many wives (3+ wives); mostly in their late 50s or early 60s; employ people to work in their farms; university level education; well connected politically within the community; have fairly diversified source of income such as shops have TV in their homes; are able to afford to send their children to good schools in the community.
<i>Tarimba</i> (middle class)	Single source of income; earns just enough to meet their immediate needs; have university level education; mid-career professionals; secondary school teachers fall under this category; mildly connected mainly through friends and family members; have regular source of income; cannot build asset as has low income; live in government or rented or kinship homes; main	Use own labour; has one or two wives; gets just enough to eat during harvesting season; have fairly big farms; sometimes traders; live in cement houses covered with zinc, primary school teachers fall in this category; live in kin home; have 1 or 2 wives; have no major assets.

	source of transport is motorbike; have one wife and a small family	
<i>Fara-nima</i> (poor)	No stable source of income, untrained teachers or similar level of workers; shop keepers; masons; apprentice; have fluctuating food availability; source of transport is bicycle or waking; live in kinship home or rented accommodation; often buy on credit; rely on other members of family to pay bills, children's school fees and hospital expenses, mostly disabled; mostly widows; mostly elderly; mostly have no children, sometimes bergs for money and food; depend on the <i>Bundaamba</i> or <i>Lagri-nima</i> for food and clothing; experience chronic poverty.	subsistence farmers; have no property other than few chicken, goats and sheep; rely on the <i>Bundaamba</i> or <i>Larinima</i> to pay children's school fees, health expense; cannot afford fertiliser and farm inputs; often work as labourers in <i>Bundaamba</i> and <i>Larilaanim</i> farms; fluctuating availability of food; source of transport is bicycle or walking; live in kinship home or a rented accommodation; ultra poor ( indigents); mostly disabled; mostly widows; mostly elderly; mostly have no children, live in kinship homes; bergs for money and food; have no information;

## Appendix 8 Ethical approval letter – London Metropolitan University



Yussif Nagumse Alhassan  
Vice Chancellor Scholarship PhD Student  
Faculty of Applied Social Sciences  
London Metropolitan University  
Ladbroke House  
London N5 2AD

March 23rd 2011

Dear Yussif

### **Research ethics application:**

#### **The Role of Social Health Insurance Policy in shaping Healthcare provision in Ghana**

Thank you very much for your application for research ethics review and I am now able to give full approval for this very interesting project.

Please let me know should you make any changes to the research which may affect the research ethics approval you have received. We would also like to know if you have received ethics approval from the Ghana Health Service Ethics Committee as we noted that you need their approval as well as from the London Metropolitan RERP.

We wish you every success with the research and look forward to hearing how it has gone.

Yours sincerely

A handwritten signature in cursive script that reads "Georgie Parry-Crooke".

Georgie Parry-Crooke

Chair Social Sciences Research Ethics Review Panel,

Tel. 020 7133 5092

Email. [g.parry-crooke@londonmet.ac.uk](mailto:g.parry-crooke@londonmet.ac.uk)

**Appendix 9 Ethical approval letter – NMIMR**

NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH  
***Established 1979 A Constituent of the College of Health Sciences***  
**University of Ghana**

Phone: +233-21-501180/513202

(Direct)+233-21-501178/9 (S/board)

Fax: +233-21-502182/513202



NMIMR-IRB  
P. O. Box LG 581  
Legon, Accra

My Reference: DF 22

May 5, 2011

Yussif Nagumse Alhassan  
Department of Applied Social Science

**RE: Our Study #** 034/10-11 **At:** NOGUCHI MEMORIAL INSTITUTE  
FOR MEDICAL RESEARCH-IRB

Dear Yussif Nagumse Alhassan:

**Meeting Date:** 5/4/2011 **At:** NOGUCHI MEMORIAL INSTITUTE  
FOR MEDICAL RESEARCH-IRB

**Protocol Title:**The Role of Social Health Insurance Policy in addressing inequities in access to  
healthcare in Ghana

This is to advise you that the above referenced Study has been presented to the Institutional  
Review Board, and approved.

**Internal #:** New Appl

**Expiration Date:** 5/3/2012

**On Agenda For:** Initial Submission

**Reason 1:**

**Description:** Date Received- 2/28/2011

**IRB ACTION:** Approved

**Condition 1:**

**Action**

**Explanation:** The protocol was approved.

Yours Sincerely,



Helena Baidoo  
IRB Administrator  
NMIMR-IRB

## Appendix 10 NHIS membership in Tamale District (2006 – 2011)

Membership type	2006 - 2007 new enrolments			2008 new enrolments			2009 new enrolments			2010 new enrolments			2010 renewals			2010 active members			2011 new enrolments			2011 renewals			2011 active members		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
Informal	21,551	29,342	50,893	15,883	16,890	32,773	2,321	4,139	6,460	3,286	4,762	8,048	3,217	6,699	9,916	6,503	11,461	17,964	2,747	3,617	6,364	5,113	7,642	12,755	7,860	11,259	19,119
SSNIT	3,983	3,662	7,645	2,391	1,241	3,632	2,201	1,033	3,234	368	267	635	2,157	1,791	3,948	2,525	2,058	4,583	415	287	702	2,806	2,355	5,161	3,221	2,642	5,863
Pensioner	198	39	237	86	17	103	784	260	1,044	35	30	65	55	15	70	90	45	135	61	58	119	77	56	133	138	114	252
Indigents	412	1,669	2,081	1,708	1,726	3,434	593	538	1,131	979	977	1,956	41	124	165	1,020	1,101	2,121	1,577	2,228	3,805	860	1,290	2,150	2,437	3,518	5,955
Under 18	19,852	24,218	44,070	15,340	19,649	34,989	3,317	3,951	7,268	5,534	6,869	12,403	7,989	9,078	17,067	13,523	15,947	29,470	6,513	6,266	12,779	10,021	10,963	20,984	16,534	17,229	33,763
70+	3,128	2,697	5,825	2,580	1,989	4,569	3,046	3,276	6,322	646	646	1,292	1,199	1,625	2,824	1,845	2,271	4,116	346	545	891	1,613	2,118	3,731	1,959	2,663	4,622
Pregnant	0	0	0	0	0	0	0	38,030	38,030	0	12,802	12,802	0	262	262	0	13,064	13,064	0	9,316	9,316	0	929	929	0	10,245	10,245
<b>Total</b>	<b>49,124</b>	<b>61,627</b>	<b>110,751</b>	<b>37,988</b>	<b>41,512</b>	<b>79,500</b>	<b>12,262</b>	<b>51,227</b>	<b>63,489</b>	<b>10,848</b>	<b>26,353</b>	<b>37,201</b>	<b>14,658</b>	<b>19,594</b>	<b>34,252</b>	<b>25,506</b>	<b>45,947</b>	<b>71,453</b>	<b>11,659</b>	<b>22,317</b>	<b>33,976</b>	<b>20,490</b>	<b>25,353</b>	<b>45,843</b>	<b>32,149</b>	<b>47,670</b>	<b>79,819</b>