

**DETERMINANTS OF DEMAND FOR NATIONAL HEALTH INSURANCE, A CASE
STUDY OF NKORANZA HEALTH DIRECTORATE IN THE BRONG-AHAFO
REGION**

BY

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DECLARATION

I hereby declare that this submission is my own work towards the MPhil and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in the text.

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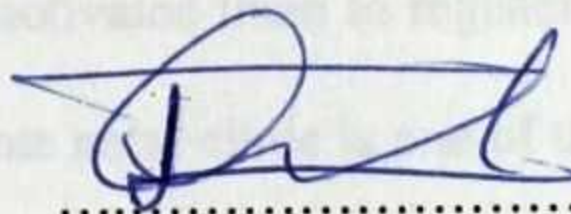
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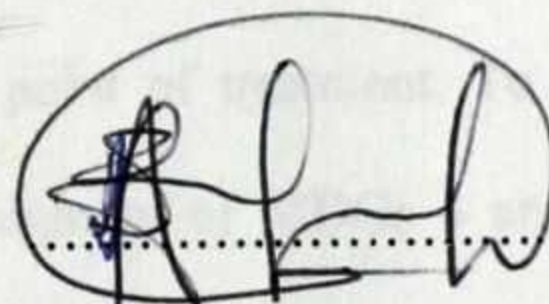
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ABSTRACT

To remove the financial barrier to health services, the government passed the National Health Insurance Act (Act 650) in August, 2003 aimed at abolishing the “cash and carry system” and limiting out of pocket cash system at various points of services. Health insurance schemes are increasingly recognized as preferable mechanisms to finance health care provision. Due to this it is expected that all should insured. As at December 2011, enrollment in the NHIS in Ghana, with population of about 24,658,823 (2010 PHC) only 8,214,116 constituting 33.2% were active members in the NHIS. Therefore, the rationale behind why people choose to be enrolled or not enrolled in health insurance schemes shall be answered by this study. The Nkoranza community in the Brong-Ahafo region was selected because it is noted for the first ever in Ghana to start a community based health insurance policy which started in 1990 with St. Theresa Hospital. The study revealed that education, employment and unsure of future health risk are important determinant of health insurance participation in the Nkoranza health directorate. However, the most important reason why people participate is to avoid/reduce unexpected healthcare expenses in the event of illness, affordable premium, getting free and frequent health services anytime, motivated them to register and female respondents strongly agreed that having access to free ante natal clinic is one of the main reasons they insured. For the uninsured, the most pressing reason retarding participation are processing of the cards delay and too much renewal fees. The insured respondents shared their views and perception about the quality of service, whether essential drugs were made available and if they were asked to pay any extra fee at the point of treatment. To help reduce maternal and child mortality rates and to improve attainment of MDGs 4 and 5 Mothers should continue to access the full package of antenatal, deliveries and postnatal care at accredited health facilities free of charge.

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DEDICATION

This work is dedicated to my dear brothers Atsu and Etse Nkukporu who have worked tirelessly to bring me this far.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Many countries, especially, both low and middle incomes rely on patient's out-of-pocket (cash and carry) health payments to finance their health care system (Xu et al, 2007). According to WHO, out-of-pocket health payment is the least efficient and most inadequate means of financing health care which prevents people from seeking medical care from professionals and thus resorting to self-medication and services from unprofessional in the health care delivery (Hjortsberg, 2003).

The state in most low-income countries has not been able to fulfil the health care needs of the poor, and especially of the rural population. Shrinking budgetary support for health care services, public health provision inefficiency, unacceptably low quality of public health services, and the resultant imposition of user charges bear testimony to, and are reflective of, the state's inability to meet health care needs of the poor.

According to Jutting and Weismann (2001), in the last decade, the "health care crisis" led to the emergence of many community-based health insurance schemes or community financing schemes (CF) in different regions of the developing world, particularly in sub-Saharan Africa. The decentralisation process unleashed in these countries to empower lower layers of government and the local community further fuelled their emergence (Atim, 1998; Musau 1999).

According to Churchill (1999) the success of micro-credit schemes may have also contributed to the emergence of community-based health initiatives designed to improve access through risk and resource sharing.

Elsewhere, particularly in regions of Asia and Latin America, community-based health initiatives have come about independently and as part of income protection measures or to fill the void created by missing institution.

Direct public provision of health care services for people lacking resources is only one of the ways of meeting their health care needs. This strategy was tried in the past in the belief that the poor are too poor to be able to save and contribute towards their health care needs. This belief has been questioned in the recent past, and there is now a growing realisation that even the poor can make small, periodic contributions that can go towards meeting their health care needs. As a result, health insurance is increasingly being recognised as a tool for financing health care provision in low-income countries (Weismann 2002).

The basic question is why health? Of all the risks facing poor households, health risks probably pose the greatest threat to their lives and livelihoods. Health shocks have a direct impact on human capital formation. It thrusts health expenditure on a poor household precisely at a time when they can ill-afford it due to income shortfall resulting from the shock (Tenkorang, 2001).

Moreover, the uncertainty of the timings of illness and unpredictability of its costs make financial provision for illness difficult for households receiving low and irregular income (Tenkorang, 2001). Furthermore, given the strong link between health and income at low-income levels, a health shock affects the poor the most (Aken et al; 2000).

The next question of concern is why insurance? First, many health risks such as those relating to isolated illness, injury, disability, maternity and the like are considered to be eminently insurable as these risks are mostly independent or idiosyncratic, that is, not correlated among community members. Secondly, insurance separates time of payment from time of use of health services for each member, and thereby makes possible demand for such services by its

members who would not have otherwise been able to afford the cost. Insurance is particularly beneficial to the poor who often bear high indirect costs of treatment due to their limited ability to mitigate risk on account of imperfect labour and credit markets (Tenkorang, 2001)

There has been a sensitive need both globally and locally to abolish out-of-pocket financing healthcare delivery and resort to health insurance where patients would be given quality health care when the need arises (Dror et al; 2002).

According to Witter and Garshong (2009), in some countries of Africa, there have been efforts to reduce financing barriers to quality health care generally but with particular emphasis on high priority services and vulnerable groups.

Health pre-financing system through general taxation or through the development of social health insurance are generally recognized to be powerful methods to achieve universal coverage with adequate financial protection for all against healthcare costs (Webber et al, 2000 cited in Carin et al, 2005).

The World Bank and the International Labour Organization recently published a book showing how the risks incurred by such small community health insurance schemes might be spread over a much broader risk pool through a reinsurance mechanism thus encouraging the spread of community health insurance (Dror et al 2002). And the Commission on Macroeconomics and Health (Sachs Commission) appointed by the World Health Organization concluded that community health insurance schemes do have the potential to make health services more accessible in the developing world. A report submitted to the Commission in 2001 summarized the existing literature on community health insurance schemes as follows:

The main strengths of community financing schemes are the extent of outreach penetration achieved through community participation, the contribution to financial protection against illness, and an increase in access to health care by low-income rural and informal-sector workers. The main weaknesses are the low volume of revenues that can be mobilized from poor communities, the frequent exclusion of the very poorest from participation in such schemes without some form of subsidy, the small size of the risk pool, and the limited management capacity that exists in rural and low-income contexts (Preker et al; 2001).

According to WHO (2005) estimates, every year some 100 million people become impoverished and several 150 million face financial hardships due to health care payments.

Many African countries including Ghana, Rwanda, Tanzania, Kenya and Nigeria are experimenting with a variety of comprehensive social health insurance schemes that combines both private and public funding arrangements (Mensah et al, 2010). Health care cost are unpredictable; individuals do not generally know when they are going to fall ill, what health care they would require and what cost they will incur (McIntyre, 2007).

In the late 1950s and early 1960s, Ghanaians could seek medical attention in most government hospitals at no financial cost to the individual (Wahab, 2008). When Ghana adopted the Structural Adjustment Program (SAP)/ Economic Recovery Program (ERP) promulgated by International Monetary Fund (IMF) and World Bank which seek to cut government expenditure, the full burden of health care cost was borne by patients (Asenso-Okyere and Dzator 1997 cited in Wahab 2008).

The National Health Insurance Act (Act 650 section 31) of the Ghanaian constitution was passed in 2003 which was aimed to abolish out-of-pocket payment system (cash and carry).

The act stipulates that:

“Every person resident in Ghana other than a member of the Armed Forces of Ghana and the Ghana Police Service shall belong to a health insurance scheme licensed under this act (Constitution of Ghana)”.

The aim of the health insurance scheme was to spread the risks associated with health care cost over a group of subscribers. It also aimed at rendering to Ghanaians an acceptable quality health care (Nketiah-Amponsah, 2008).

Ghana's Health Insurance Scheme (NHIS) was created by the National Health Insurance Act of August 2003, and is one of very few attempts by a sub-Saharan African country to implement a national level, universal health insurance program (Kirigia et al; 2006). A newly created National Health Insurance Authority (NHIA) was commissioned 'to secure the implementation of a national health insurance policy that ensures access to basic healthcare services to all residents' (National Health Insurance Act 650, 2003). The NHIA licenses and regulates district level mutual health insurance schemes (DHIMS) as well as other schemes allowed under the Act, accredits service providers, determines in consultation with DHIMS premiums levels, and generally oversees and reports on NHIS operations. There are currently 145 district schemes in the country including the one being operated at Nkoranza during the study (www.nhis.gov.gh).

The NHIS is financed from four main sources: a value-added tax on goods and services, an earmarked portion of social security taxes from formal sector workers, individual premiums (insurance fees), and miscellaneous other funds from investment returns, Parliament or donors (National Health Insurance Act 650, 2003).

The 2.5% tax on goods and service, called the National Health Insurance Levy (NHIL), is by far the largest source, comprising about 70% of revenues. Social security taxes account for an additional 23%, premiums for about 5%, and other funds for remaining 2% (Yankah, 2009).

The NHIS (including all DHMISs) has a single benefit package that is set by Legislative Instrument 1809 and describe by the NHIA as covering “95% of disease conditions” that afflict Ghanaians (Witter and Garshong, 2009). The NHIS covers outpatient services, including diagnostic testing and operations such as hernia repair, most in – patient services, including specialist care, most surgeries and hospital accommodation (general ward), oral health treatments, all maternity care services, including Caesarean deliveries, emergency care and finally, all drugs on the centrally established NHIA Medicines list (www.nhis.gov.gh).

The NHIS package excludes some very expensive procedures such as certain surgeries, cancer treatments (other than breast and cervical cancer), organ transplants and dialysis, non-vital services such as cosmetic surgery and some high profile items such as HIV antiretroviral drugs (which are heavily subsidized by the separate National AIDS program). Other than the excluded services, there are few formal limits placed on NHIS member’s consumption of benefits – there is no cost sharing beyond premiums (i.e. no co – payments, coinsurance or deductibles), no annual or lifetime limits and little effective gate-keeping.

The Nkoranza community in the Brong-Ahafo region of Ghana had a Community Based Health Insurance Policy (CBHIP) which started in 1990 with St. Theresa Hospital as the original sponsor under the catholic diocese of Sunyani (Okello et al, 2004). Each year about 4,000 district residents roughly one-third of Nkoranza population enroll in the plan which covers user fees for in-patients of which premiums taking per person hovered around US\$ 2.00 in 2002 (Okello et al, 2004).

The Nkoranza community base health financing was aimed at relieving the health care cost amongst the indigenes especially the poor and the vulnerable.

1.2 Problem statement

To remove the financial barrier to health services, the government passed the National Health Insurance Act (Act 650) in August, 2003 aimed at abolishing the “cash and carry system” and limiting out of pocket cash system at various points of services.

According to Nketiah-Amponsah (2009), factors such as premium (insurance fees), income, age, religion, education have always determined the demand for health insurance. Political allegiance, tribal groups and differences, expectations (sure or unsure of future health risks) and several economic hardships contributes to peoples demand for health insurance in Ghana (Jutting, 2003).

As at December 2011, enrollment in the NHIS in Brong-Ahafo region with a population of about 2,310,453 (2010 PHC) has about 962, 453 constituting 41.6% s active members. On the national grid, with population of about 24,658,823 (2010 PHC) only 8,214,116 constituting 33.2% were active members in the NHIS. The membership base of the NHIS from the onset in 2004 when it used to be District Mutual Health Insurance Schemes (DHIMS) has steadily increased over the period till now (National Health Insurance Authority Report, 2012).

Though constitutional Act 650 section 31 clause 2 stipulates that, ‘a person resident in a district, who is not a member of a private health insurance scheme registered under this Act, shall apply to be enrolled as a member of the district mutual health insurance scheme in the relevant district’ is a *de facto*, since enrollment is voluntary and there is no penalty for individuals failing to enroll. ~~This has~~ prompted to study various factors that affects individual voluntary enrollment into the NHIS.

The questions to address are what is the determinant of demand for health insurance policy within the Nkoranza community? What are the relative importance of the following factors such as age, insurance policy, income, premiums, religion, educational background, family

size and expectations (sure or unsure of future health risk) on demand for health insurance in Nkoranza?.

In view of this, the study shall seek to pin out the major factor(s) that may have influence peoples participation over the years as well as those factor(s) inhibiting others to join the Health Insurance Scheme within the Nkoranza health directorate.

1.3 Objective of study

Health insurance schemes are increasingly recognized as preferable mechanisms to finance health care provision. Other alternatives such as cost recovery strategies and user fees have been criticized on grounds that it affects access to health care (Gilson, 1998). The option of health insurance scheme seems to be a promising alternative as it pools and transfers risks of unforeseeable health care costs for a pre-determined fixed premiums (Griffin, 1992).

Therefore, the rationale behind why people choose to be enrolled or not enrolled in health insurance schemes shall be answered by this study. The general objective of the study is to access the determinants of demand for health insurance using Nkoranza as a case study and specific objectives are:

- To identify factors that influence enrollees participation in NHIS
- To access factors that accounts for the inability of some people to participate in the NHIS
- To determine how changes in each of the determinants identified as factors for enrollment affects health insurance participation.

1.4 Hypothesis

The main hypetheses to be tested are:

- Premium, family size and income are factors that affect health insurance participation.
- Age, education and gender are factors that affect health insurance participation.

- Unsure of future health risks, employment statuses are factors that affect health insurance participation at Nkoranza Health directorate.

1.5 Justification of study

The research will help the government or authorities to know measures to put in place in enrolling the people on the NHIS. The project will come out with alternative ways of complementing the existing measures or policies of enrolling people on the NHIS. The research is relevant on the basis that it will aid further research work in a related field.

1.6 Scope of study

The study was undertaken in the Nkoranza district in the Brong-Ahafo region of Ghana. This study was limited to persons living in the Nkoranza regardless of their educational background, gender, either enrolled on the NHIS scheme or not enrolled on the NHIS scheme.

The Nkoranza community in the Brong-Ahafo region was selected because it is noted for the first ever in Ghana to start a community based health insurance policy which started in 1990 with St. Theresa Hospital as the original sponsor under the Catholic Diocese of Sunyani (Okello et al; 2004).

1.7 Organisation of study

This study is grouped under five chapters. Chapter one includes the overview of the study that is the background of study, the statement of problem, objectives of the study, methodology, justification, scope of study and organisation of the work. Chapter two reviews related existing literature on the study. Chapter three focuses specifically on the study area and methodology. Chapter four includes detailed analysis, discussion, and interpretation of data that were collected. Chapter five presents the findings, recommendations, and ends up with conclusion of the study.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter discusses the theoretical underpinnings of basic concepts that relate to the topic under study. It reviews works that people have done on the structure of health services in Ghana and explaining concepts such as health insurance; demand for health insurance; as well as factors that influence or motivate people to enrol in a given type of health insurance under the theoretical or conceptual framework. Again, similar works done with respect to determinants for the demand of health insurance has also been reviewed under the empirical evidence and how those works differ from this work also established.

2.1 The Structure of Health Services in Ghana

Formal health facilities in Ghana are hierarchically organised, and comprise four levels in the urban areas and five in rural areas. The health post is the first level provider in the rural areas. Health centres or clinics, district hospitals, regional hospitals and teaching hospitals follow in that order (Mensah et al., 2010).

Perhaps, the most striking feature of Ghana's health system relates to spatial disparity, particularly between northern and southern Ghana, and between the rural and urban areas of the country. Moreover, the health-care system still suffers some serious challenges such as the dearth in health care professionals caused by a serious brain drain: (60% of the doctors trained locally in the 1980s have left Ghana) (Mensah et al; 2005).

Even though it is still very high, there has been an improvement in the population per doctor ratio (it decreased during the period 2003-2008) for all the regions in the country with the exception of the Upper East region. There has also been an improvement in the population per nurse ratio in all the regions. Nevertheless, the disparities between regions remain: In 2008, one doctor in the Northern region serves ten times as many people as in Greater Accra

(home to the national capital city, Accra), and one nurse in the Northern region serves about twice as many people as in Greater Accra. To give an idea of the size of this lack of health-care professionals, the population per doctor ratio in the Europe and in the United States is 275 and 374, respectively, and the population per nurse ratio in the Europe and in the United States is 126 and 102 respectively (World Bank Development Indicators, 2010).

2.2 Health Insurance Scheme in Ghana

Ghana's National Health Insurance Scheme (NHIS) is a fusion of the traditional Social Health Insurance and Mutual Health Insurance and administered peripherally through 145 district-wide mutual health insurance schemes with a central system at the national level to collect formal sector contributions. The scheme is designed to promote social health protection through risk equalization, cross subsidization, solidarity, equity and quality care. The Health Insurance law (Acts 650) allows for the establishment and operation of three types of health insurance schemes in Ghana namely: District Mutual Health Insurance Schemes (DMHIS), Private Commercial Health Insurance Schemes (PCHIS) and Private Mutual Health Insurance Schemes (PMHIS). However, it is only the DMHIS that shall be provided with subsidy from the National Health Insurance Fund (Government of Ghana, 2003).

2.2.1 Funding

The scheme is financed by a National Health Insurance Levy (NHIL) of 2.5% tax on selected goods and services a 2.5% Social Security and National Insurance Trust (SSNIT) deductions from the formal sector, premiums from the informal sector and government budget allocations. The informal sector annual premium was set by national regulation between GH¢7.20-GH¢48.0 (approximately US\$5.0- US\$34.0) per person based on assessed income and ability to pay. No coinsurance, co-payment, or deductible is required at the point of service.

There exist a National Health Insurance Fund (NHIF), financed from the NHIL, SSNIT deduction from the formal sector employees, funds allocated to the scheme by Parliament, returns on investments made by the National Health Insurance Council (NHIC) and others including grants, donations, gifts made to the fund (NHIA, 2010).

The NHIF provides funds for reinsurance to the DMHIS, subsidy or outright pre-payment for the core poor and vulnerable who do not have the ability to pay and to support programs that improve access to health services. The NHIL accounted for about 61.5% and 61.0% of total income of the NHIS in 2008 and 2009 respectively (NHIA, 2010). Formal sector contributions made up 16.9% and 15.6% while the informal sector premium constituted only 5.0% and 3.8 % respectively (NHIA, 2010).

2.2.2 Exemption

Children under 18 years, adults 70 years and above, formal sector employees contributing to the Social Security and National Insurance Trust (SSNIT), and indigents are exempted from paying annual premiums. In July 2008, the Government of Ghana announced a free maternal care policy exempting all pregnant women from paying premium and processing fees. The package was to improve access to skilled attendance at delivery to help reduce maternal and child mortality rates and to improve attainment of MDGs 4 and 5. Mothers have access to the full package of antenatal, deliveries and postnatal care at accredited health facilities free of charge (NHIA, 2008; MOH, 2009). As of 2009, the exempt group constituted 70.6% of the total registrants, comprising of: children under 18 years (49.44%), aged above 70 years (6.67%), SSNIT contributors (6.10%), pregnant women (5.54%), indigents (2.32%) and SSNIT pensioners (0.53%). Total non-paying member accounted for about 65% (NHIA Report, 2010).

2.2.3 Benefit package

The minimum benefits package under the NHIS includes general out-patient and in-patient care, oral health, eye care, comprehensive delivery care, diagnostic tests, generic medicines and emergency care (Zhang, 2011). In all over 95% of the most common disease conditions reported in healthcare facilities in Ghana are covered under the scheme. Highly specialized care such as dialysis for chronic renal failure, organ transplants and services provided under government vertical programs (example: Antiretroviral for the treatment of HIV/AIDS, immunization and family planning), and drugs not listed in the NHIS drug list are not covered (NHIA, 2010).

In order to access healthcare under the NHIS, the National Health Insurance Regulations, L.I. 1809, requires a beneficiary to first report to a primary care facility, and subsequently to a second and third levels of care by way of referral. However poor gate-keeping in the health delivery system in general has led to clients having preferences for higher level facilities which results in higher cost and re-imburement per episode (Ghana Health Service, 2007)

2.2.4 Accreditation of providers and Provider Payment Mechanisms

In order to provide the basic package of services, the NHIS covers both public and private health care providers at all levels of the health system, subject to their accreditation by the NHIA (NHIA, 2010).

At present all public and Christian Health Association of Ghana (CHAG) facilities (about 4,000) have been given a provisional accreditation and 1,551 private providers including (hospitals and clinics, maternity homes, pharmacies, licensed chemical shops and diagnostic facilities) have been accredited to provide service and to make the service more easily accessible to beneficiaries (NHIA, 2009). Claims are made by service providers and then submitted to the district schemes for payment using the Ghana-Diagnosis Related Group (G-

DRG) rates for services and Fee-For-Service (FFS) for medicines. Discussions are on-going to design, pilot and evaluate a per capita (capitation) provider payment system for primary care under the National Health Insurance Scheme aimed at improving; cost containment, control cost escalation by sharing risk between schemes, providers and subscribers, and improving efficiency through more rational use of health resources (NHIA, 2010).

2.3 The Nkoranza Health Insurance Scheme

Following the introduction of the “cash and carry” system into Ghana’s health sector in the late 1980s, many patients began to have difficulty with paying for their health care (especially admission) costs. As a result, many did not go to the hospital until it was too late or their illness had advanced to a more complicated phase. Others who were admitted and treated subsequently absconded without paying their bills. Many individuals quite simply could not afford to pay for their care. The population, therefore, had reduced access to hospital services and, in turn, this had a negative impact on the financial performance of hospitals such as St. Theresa’s Hospital in Nkoranza.

The idea of starting a health insurance scheme was raised at a meeting of Catholic Church hospital administrators in Sunyani in 1989. The idea itself was inspired by the example of Bwamanda Hospital Health Insurance Scheme in the former Zaire. Approvals for the pilot project in St. Theresa’s Hospital at Nkoranza were obtained in 1990/91 under the leadership of Dr. Ineke Bossman, then Administrator and District Medical Officer of Health (DMOH) in charge of Nkoranza.

The Nkoranza community financing health insurance scheme was launched formally in 1992 with a funding pledge from Memisa, a Dutch Christian non-government organization, which promised to meet any expenditure shortfalls (deficits) run by the scheme in its first three years of operation. The main objective of the scheme as stated in its initial project document

was to “reduce the cost per individual hospital admission, thus making services accessible to all within the district.”

2.4 Theoretical framework

2.4.1 Meaning of health insurance

According to Claxton (2002), Health insurance is insurance against the risk of incurring medical expenses among individuals. By estimating the overall risk of health care expenses among a targeted group, an insurer can develop a routine finance structure, such as a monthly premium or payroll tax, to ensure that money is available to pay for the health care benefits specified in the insurance agreement. The benefit is administered by a central organization such as a government agency, private business, or not-for-profit entity.

Health Insurance (also known as medical insurance or medic claim) is the medical insurance provided to you by an insurance company, wherein it reimburses (Repays or compensate) the medical expenses you incur as a result of your valid hospitalization (Sarvajeet, 2012).

According to the preamble of the constitution of the World Health Organization (WHO), the enjoyment of the highest attainable standard of health has become one of the fundamental rights of all human beings (WHO constitution). For this reason, Ghana together with many other countries the world over have made strenuous attempts to provide for this right to medical care by legislation. The journey to achieving this all-important aspiration by most countries has been long and winding. But the problem has always been the financing or the contribution mechanism.

Dong (2003), explains that the financing systems covering patients' health care include health insurance schemes (otherwise called prepayment) and out-of-pocket payment. Between the 1980s and 1990, according to Aken et al. (1987), the International Financing Institutions (IFIs) advocated firmly for low and middle income countries to adopt direct out-of-pocket

payments. However, due to a growing evidence of financial hardship it imposes on the masses, there has in recent times been overwhelmingly support in favor of health insurance mechanisms (Claeson et al., 2001; Kutzin, 2001; WHO 2005 in McIntyre, 2007).

In an article contributed to Microsoft Encarta Encyclopaedia (2009) on "Health Insurance", Nielson, L. Norma explained that health insurance is a form of insurance designed to cover the costs or losses associated with healthcare. Consequently, it absorbs the bills from physicians, hospitals and other providers of medical services. By doing so, health insurance protects people from financial hardship caused by large or unexpected medical bills.

Adding to this, McIntyre (2007) indicated that several forms of health insurance schemes exist. The most common ones include the mandatory health insurance, also called, Social Health Insurance (SHI) and the Voluntary Health Insurance (VHI) usually called the private health or indemnity insurance which in most areas has become the preserve of the rich.

According to Wagstaff and Doorslaer (1993), the SHI postulates that individuals contribute to funding healthcare on the basis of their ability to pay and in terms of utilization according to need. In essence, they argue that healthcare is a right; therefore, one should be able to access regardless of their ability to pay. The indemnity insurance on the contrary contends that so long as individuals' actions or behaviours determine their state of health, each and every one should be made to pay for the consequences of their actions. For this reason, consumers ought to pay premiums according to their risk types. In this unlike the social insurance, the risk pay higher premium while the low risk contribute less.

2.4.2 Demand for health insurance

The demand theory postulates that the demand for a particular commodity is influenced by a number of factors. These can be grouped broadly into two namely: the price of the commodity itself (P) and the demand conditions. According to Wilkinson (2005) the

relationship between quantities demanded (Q), commodity's own price (P) and the other factors such income (Y), price of a substitute (Ps), tastes etc. are usually expressed in a function form as: $Q = f(P; Y; P_s; T; \dots)$. This indicates consumers are influenced by many several different factors in their demand for a particular commodity in the market (Wilkinson, 2005).

As a result, in his work on "Demand for Health Insurance among Women in Ghana: Cross Sectional Evidence", Nketiah-Amponsah (2009) indicated that one's decision to insure or not can be expressed as a function of observed factors like income, age and educational level as well as other factors influencing the demand for health insurance. Although the individuals' utilities for each choice are unobserved yet they reveal their preferences by choosing the alternative with the higher level of utility. As a result, the individual's decision process is expressed as:

$$EU_{ij} = f(M_{ij}, X_i) + \varepsilon \quad (2.1)$$

Where EU_{ij} is the utility that i th individual expects to derive from choosing j th health insurance option. $j = 1$ when the individual has health insurance and $j = 0$ there no health insurance. M_{ij} represents a vector of insurance specific attributes and X_i is a vector of an individual's socioeconomic characteristics plus a stochastic error term (ε).

According to the model, the i th individual will insure as long as $EU_{i1} > EU_{i0}$. However, if $EU_{i1} < EU_{i0}$, the individual will not insure and will be indifferent between insuring and not insuring if $EU_{i1} = EU_{i0}$. On the basis of the above, the model specifies that the probability that i th individual will go for insurance is $P_{i1} = P(EU_{i1} > EU_{i2})$. On the other hand, the probability that i th individual will not insure is $P_{i0} = P(EU_{i1} < EU_{i0})$.

According to Jehu-Appiah and Aryeetey (2011) identification, ranking and comparing perceptions of insured and uninsured households in Ghana on health care providers, health insurance schemes, community attributes; and revealed that whereas households had positive perceptions with regards to technical quality of care, benefits of NHIS, convenience of NHIS administration and had appropriate community health beliefs and attitudes, they were negative about the price of NHIS, provider attitudes and peer pressure. The uninsured were more negative than the insured about benefits, convenience and price of NHIS.

Health status or rating of the individual or household making an insurance decision is another factor which influences the demand for health insurance. Often, dummy variables reflecting the state of the respondent's health are used in empirical models (Kirigia *et al*, 2005; Temple, 2002).

However, barring any medical authentication, such variables may not reflect the state of health of the individuals or households as often the case in household surveys. Health expenditure as a proportion of total household expenditure may be used as a proxy for health status. However, health expenditure may not tell much about the household's health burden (Temple, 2002).

Grossman (1972) and Van De Ven and Van Praag (1981) also reported significant positive relationship between income and education on health care demand. Generally, higher income decreases the opportunity cost associated with the purchase of health insurance. Thus increases in both income and education are expected to increase the probability of purchasing health insurance. The effects of demographic and economic factors such as age, marital status, employment and gender on health insurance have been variously studied. Married respondents are more likely to take insurance coverage (Liu and Chen, 2002) and those

employed are also more likely to undertake coverage (Butler, 1999; Savage and Wright, 1999).

The price of insurance or premium is another factor influencing the demand for health insurance. However, few studies have attempted to estimate the price elasticity of demand for health insurance including, Pauly and Herring (2001) and Long and Marquis (2002). In the individual market, prices are often based on individual characteristics; hence the premium paid by an insured individual is endogenous. Also, in empirical analysis, a measure of price is often unavailable for the uninsured. Further, in addition to information asymmetry on the price variable for the uninsured, there is often limited variation in price in highly regulated health insurance markets such as a public health scheme.

Health care expenditure has also been found to influence the decision to participate in a given health insurance (Kronick and Gilmer, 1999). The relationship between health care expenditure and health insurance purchase decision is premised on the fact that families with higher probability of requiring hospitalization will purchase health insurance.

2.5 Empirical evidences for the determinants of demand for health insurance

Most of the work on health insurance demand is empirical and focus on the socio-economic characteristics of the insured and non-insured. The papers often identify the causes of coverage or lack of it, and the consequences of being without coverage.

Temple (2002) studied the factors influencing the insurance decision of older Australians and found economic and demographic factors particularly income and age as significant covariates of private insurance demand.

In Malawi, Makoka *et al* (2007), found income and education as significant determinants of private health care in a free public health care regime. Propper (2000) found that the demand

for private health care was strongly influenced by income, political allegiance, and attitudes to the role of state in the provision of health care and past use of health services in Zambia.

Investigating the effect of insurance membership among farmers in rural Senegal, Jütting (2004) observed that membership bore a strong positive effect on the probability of going to a hospital, even though the magnitude of 2 percentage points was quite negligible.

Prior to the introduction of Ghana's National Health Insurance Scheme in 2005, a number of studies had been carried out primarily to explore the possibility of transferring the pockets of existing mutual schemes onto the national scale (Nyonator and Kutzin, 1999; Asenso-Okyere *et al*, 1997; Osei-Akoto, 2003).

Criel *et al*; (1999) at Bwamanda, in the Congo, surveys showed relatively little difference in plan membership based on housing, education level, family size, and religion. However, community members with relatively high cash income (>US\$200 month) or relatively low cash income (<US\$20 per month) were less likely to enrol in the Bwamanda plan.

An analysis of four *mutuelles* (community-based schemes) in Senegal, based on a community Survey conducted in 2000, found that enrolment was positively correlated with literacy and income (Jutting, 2000). On the other hand, a scheme in Bangladesh enrolled 80% of the destitute and 46percent of the poor, but only 20 percent of the middle class and 10 percent of the wealthiest group within the service area (Desmet *et al*; 1999).

Schneider (2001), in his analysis of the community health schemes built around District Health Centres in Rwanda found that while the prepayment scheme reached the poor, the destitute did not join. In exit surveys at selected health centres, 53 Percent of the insured were poor, 21 percent were middle income, and 26 Percent were higher income. At the same time, 69 percent of the uninsured attending the clinic were poor; while approximately the same

proportion (20 percent) were middle income. Only 11 percent were from the higher-income group.

Asafu-Adjaye (2003) and Asenso-Okyere (1997) examined the willingness to pay for health insurance using Contingent Valuation Methods. The studies had mainly focused on the socioeconomic determinants of willingness to pay and had concluded that pre-payment schemes could curtail self-medication and delays in seeking care.

In China, Baernighausen *et al.* (2007) found income and health expenditure as significant predictors of willingness to pay for basic health insurance while education proved insignificant for same.

Dong *et al* (2008) studied the prospects of introducing Community-Based Health Insurance (CBI) in Burkina Faso among health-care users and non-users. They found that economic factors strongly influenced peoples' choice between professional care and non-professional care and concluded that the introduction of CBI might increase the use of medical services.

Musau (1999) reviewed a study at Kisiizi in Uganda, Chogoria in Kenya, and a multi-centre community finance plan in Tanzania. He noted that even though all the plans were designed to cover user fees and not the full cost of care, they generally did not earn premium income equal to user fees foregone. His analysis also noted that only the Tanzanian plan attempted to offer premium exemptions to the poorest enrollees, and generally failed to do so due to administrative problems.

In their study on insurance ownership among South African women, Kirigia *et al* (2005) examined the relationship between health insurance ownership and the demographic, economic and educational characteristics of South African women. Although the paper by Kirigia *et al* (2005) is the closest to this study, there are fundamental distinctions. Firstly, the

women in the sample investigated have had at least a live birth between 2002 -2007, thus the sample pertains to only women in the fertility bracket (15-49 years) while their sample included women aged 16-64 years. Secondly and more importantly, supply side factors including distance to the nearest health facility were omitted or not controlled for.

According to Samnang (2005) a study on, "Determinants of Health Insurance Participation in Cambodia" had as its objective to study the situation of health insurance participation among the people of Takmau District of the Kandal Province in Cambodia. In addition, the study sought to find out the factors that determine the people's health insurance participation.

Using interview approach, 309 residents were sampled from the Takmau District. After the analysis of data, it came out that high-income earners participated more in health insurance than the low-income group. In terms of education, the highly educated joined health insurance more than those with low education. The study also found that health insurance participation increases with age and that majority of the enrollees were farmers.

Furthermore, whereas perception about health insurance and family size related positively with health insurance; gender and marital status inversely related with health insurance. Notwithstanding this, none of these variables was statistically significant

This paper is enriched with the inclusion of variables that capture access to health information since they may influence the decision to insure or not. This paper fills the research gap by including supply side variables particularly distance to the nearest health facility and nurse per population.

CHAPTER 3

METHODOLOGY

3.0 Introduction

This chapter focuses on the background of the study area, the design of the study and the method of data collection to find out the determinants of demand for health insurance and taking in to consideration the specific programme of study or area of specialization with regards to respondents who either enrolled or not enrolled in the National Health Insurance Scheme. Quantitative and descriptive methods were used for the data analysis.

3.1 Background of the study area

Nkoranza district is one of the twenty-seven (27) administrative districts in the Brong-Ahafo Region of Ghana. It is located in the middle portion of the Brong-Ahafo Region. The total population of the district was estimated to be 65,895 according to the 2010 Population and Housing Census (Ghana Statistical Service, 2010).

The main occupation of the inhabitants is agriculture, which employs about 95% of the economically active population of the district. Food crop farming is the main source of cash for the rural dwellers, and maize farming is the main cash crop grown (26% of total cultivated land), followed by yams (19% of cultivated land). In addition, other food crops such as vegetables, cassava, rice, groundnuts, cowpea, cocoyam and plantain are cultivated. Cotton and tobacco are also grown in parts of the district (Department of Agricultural Extension Services, Nkoranza, 2013).

An enormous section of the population also practices small scale industry. Nkoranza town is the district capital, with approximately 24% of the district's population (Nkoranza District Assembly, 2013). This urbanised area has a population made up mainly of traders, civil servants and other government employees, transport operators, small scale industry operators

and the like. Many urban dwellers, however, still take up agriculture as at least a minor activity. There is only one hospital in the district, the St. Theresa's Hospital, run by the Catholic Diocese of Sunyani, and is the recognised district hospital for Nkoranza.

The district shares boundaries with Jaman to the North, to the west by Techiman Municipality, all in the Brong-Ahafo Region and Offinso North and Ejura-Sekyere-Dumase (all in Ashanti region) to the south and south east respectively. It has about 126 settlements traditionally headed by one paramount chief Nana Kodom Agyemang (Nkoranza District Assembly, 2007).

3.2 The Nkoranza Community-Based Health Insurance Scheme (NCBHIS)

Following the introduction of the "cash and carry" system into Ghana's health sector in the late 1980s, many patients began to have difficulty with paying for their health care (especially admission) costs. As a result, many did not go to the hospital until it was too late or their illness had advanced to a more complicated phase. Others who were admitted and treated subsequently absconded without paying their bills. Many individuals quite simply could not afford to pay for their care. The population, therefore, had reduced access to hospital services and, in turn, this had a negative impact on the financial performance of hospitals such as St. Theresa's Hospital in Nkoranza.

The idea of starting a health insurance scheme was raised at a meeting of Catholic Church hospital administrators in Sunyani in 1989. The idea itself was inspired by the example of Bwamanda Hospital Health Insurance Scheme in the former Zaire. Approvals for the pilot project in St. Theresa's Hospital at Nkoranza were obtained in 1991 under the leadership of a Dutch doctor, Dr. Ineke Bossman, then Administrator and District Medical Officer of Health (DMOH) Dr Apiedu-Mensah in charge of Nkoranza and the support from the Omanhene Nana Kodom Agyemang through relentless effort got all the traditional and

opinion leaders of the various communities on board to support what the entire Nkoranza communities deemed an ideal social health intervention program (NHIS Nkoranza Office, 2013).

The Nkoranza community financing health insurance scheme was launched formally in 1992 with a funding pledge from MEMISA, a Dutch Christian non-government organization, which promised to meet any expenditure shortfalls (deficits) run by the scheme in its first three years of operation. The main objective of the scheme as stated in its initial project document was to “reduce the cost per individual hospital admission, thus making services accessible to all within the district.”

3.2.1 Operations of the Nkoranza Community-Based Health Insurance Scheme

The Nkoranza Community-based Health Insurance Scheme charged premiums of 42 pesewas in the first year of operation (1992) with increased in premium rates to GH¢4.50 in the last year (2004) with no exemptions with regard to age, sex, employed or unemployed. This premium charge was levied to each member of a household. Every member was given membership card which guaranteed a subscriber full benefits of the scheme and if a whole household got enrolled, they were given a family membership card with passport size photos affix on it (Nkoranza NHIS office, 2013).

Cost incurred of Out-Patient (OPD) disease were not borne by the scheme rather In-Patient (IPD) expenditures and subscribers detained over more than 24 hours at the St. Theresa Hospital. In situations of referrals, where subscribing patients were transferred to seek for medical care at other Hospitals, expenses incurred were subsidized by the scheme. The St. Theresa Hospital accommodated the staff of the Nkoranza Community-based health insurance Scheme (NCHIS) which served both the then Nkoranza North and South Districts (Nkoranza NHIS office, 2013).

3.3 Research design

The research design used was to guide the implementation of the study towards its realization. It aids us in the allocation of limited resources by posing crucial choices. A descriptive and cross-sectional design with both qualitative and quantitative approach was used for this study. Quantitative approach used was to extract data in a numerical form through the questionnaire based on data required for the analysis of the subject matter. Qualitative approach derives data from observation, interviews or verbal interactions and focuses on the meanings and interpretations of the respondents (Holloway and Wheeler, 1995).

Qualitative approach was extremely important because informants may be unwilling to answer or give thoughtful answers to certain questions that invade their privacy, embarrass them, or have negative impact on their ego or status. Qualitative research allow for techniques that build up an amount of rapport and trust, that allow gentle probing in a manner that suits informants, and may allow sensitive data to be elicited. The study design and selection of the variables for the study was informed and guided by previous studies on the subject.

3.4 Sample Size Selection and techniques

The data for this study are drawn from both primary and secondary sources. Standards Survey includes a sample of 500 households. The survey collected personal information on educational background, employment, income, marital status, age and family size. After the selection of Nkoranza health directorate, data were obtained by two-stage stratified sampling through ten (10) communities' representative of different stages of towns in the Health Directorate.

In each of the ten principal towns identified through stratified sampling method, respondents were chosen by method of simple sampling as representative of their geographical location in

the town (central or peripheral) and age disposition. That is 50 household respondents (sample) were selected in each town. The population was made up of household members that had being insured or not as of the time of the study.

The sample size of 500 households was enough to achieve a higher level of accuracy. Table 3.0 below shows the selection of the households (sample size) in each designate town.

Table 3.0: Selection of Respondents;

Town	Sample size
Ayeredo	50
Nkranka	50
Bono Manso	50
Pienyina	50
Yefri	50
Nkwabeng	50
Donkro Nkwanta	50
Dromankese	50
Nkoranza	50
Busunya	50

3.5 Method of data collection

The study employed primary data in the form of personally administered questionnaires as the means of data collection since the kind of information needed from respondents does not exist. The questionnaires were basically closed ended questions but divided into two parts. The first part collected data on the socio-demographic data such as income, age, gender, marital status, religion, family size, educational and employment status. The second part was used to collect data on respondents' registration status, reason(s) for registering or not registering, reasons for not renewing membership into the scheme and their perception about the scheme delivery and the premium paid. The data for this study are drawn from both

primary and secondary sources. Standards Survey includes a sample of 500 households. The secondary data was obtained from the NHIS office in Nkoranza about the number of enrollees.

3.6 Data Analysis

Both quantitative and descriptive methods were used for the data analysis. Quantitative methods helps one to know the actual relationships between two or more variables being studied as Strauss and Corbin(1990) contend that, using quantitative techniques helps in providing insight on issues that little is known about. In order to know the factors affect the demand for NHIS, quantitative methods were used. The dependent variables being studied are dichotomous or binary hence the choice of probit regression technique as the empirical method of estimation under the quantitative method.

Concerning the descriptive method, the research used tables to analyse the information on people who are either enrolled or not enrolled in the NHIS in the sample population, their reasons for doing so, reasons for not renewing membership into the scheme and their perception about the scheme delivery and the premium paid.

3.7 Model Specification

Estimating the determinants of health insurance participation, the researchers adopted the model specified by Weinberger and Jütting (2001) in Jütting, (2003). This is because both studies have the same focus except that they are carried out different geographical areas and considers more or less variables bearing similar features. According to this model, participation in a mutual health organisation depends on the rational choice of an individual weighting costs and benefits of membership. In this regard, the model assumes that participation of a household (p) in a mutual depends on: the current income of the household (y), characteristics of the household head (H) who decides if the household joins or not, household characteristics (Z), community characteristics (C) and the error term u, which is

uncovariant with the other regressors. Hence, they expressed the functional relationship as: $\pi_i = f(y_i, Z_i, H_i, C_i)$. However, since these studies excluded some of these variables and added others not included here, the model to be estimated in this study is specified as follows:

$$HIE = f(P_M, Y_C, E_D, E_S, A_G, Gen, F_m, EF_{hr}) \quad (3.1)$$

where: HIE = Health Insurance Enrolment; P_M = Premium; Y_C = Income of clients; E_D = Education level; E_S = Employment status; A_G = Age of respondents; Gen = Gender; F_m = Family size; and EF_{hr} = Expectation of future health risk

The explanatory variables were selected based on the study hypothesis, related general empirical knowledge as well as the needs of the model. According to the literature, premium, income, age, benefit package, providers' attitude and education were identified to have significant influence on people's participation in health insurance generally. Since most of variables in the model are qualitative in nature, the model is estimated using a binary probit model specified as:

$$HIE = \beta_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \varepsilon_i \quad (3.2)$$

$HIP = 1$, if individual is a member of the NHIS otherwise $HIP = 0$

X_2 = Dummy variable ($X_2 = 1$ if basic education, $X_2 = 0$ if otherwise)

X_3 = Dummy variable ($X_3 = 1$ if secondary education, $X_3 = 0$ if otherwise)

X_4 = Dummy variable ($X_4 = 1$ if tertiary education, $X_4 = 0$ if otherwise)

X_5 = Dummy variable ($X_5 = 1$ if employed, $X_5 = 0$ if unemployed)

X_6 = Dummy variable ($X_6 = 1$ if premium expensive, $X_6 = 0$ if otherwise)

X_7 = Dummy variable ($X_7 = 1$ if unsure of future health risk, $X_7 = 0$ otherwise)

X_8 = Dummy variable ($X_8 = 1$ if Female, $X_8 = 0$ if otherwise)

X_9 = Income of respondent

X_{10} = Age

X_{11} = Family size

ε_i = Stochastic error term.

3.8 Expected Signs of the Parameter Estimates

It is expected that education, family size and employment move in the same direction with health insurance participation hence $\beta_2, \beta_3, \beta_4, \beta_5, \beta_{11}$, are expected to be positive. This indicates that having access to education increases ones probability of enrolling on NHIS. The employed are also more likely to patronise insurance since he receives higher income which puts him in a better position to afford insurance fee. The size of the family is also expected to relate positive to health insurance participation. This is because larger the size of the family the higher their demand for health care hence the higher the probability of insuring against illness. Premium or insurance fee is expected to relate negatively to enrolment in health insurance. This means the higher the insurance fee the more likely people will not enrolled on NHIS and the lower the premium the more likely people will enrolled on NHIS. Therefore β_6 is expected to have a negative sign. The expected signs of $\beta_7, \beta_8, \beta_9, \beta_{10}$ are positive. Thus it is expected that age, gender, income and unsure of future health risk move in the same direction with health insurance. Generally, higher income decreases the opportunity cost associated with the purchase of health insurance. Thus an increase in income is expected to increase the probability of purchasing health insurance. One is also more likely to get health insurance if he/she is unsure of any future health risk and implication, hence the

positive coefficient. As one advances in age his health deteriorate and hence have high probability to patronise health insurance. A person's gender also affects his demand for health insurance positively. Females are more likely to purchase insurance than their male counterparts.

Table 3.1 The Independent variables and their expected signs

VARIABLE	EXPECTED SIGN
Education	Positive
Gender	Positive
Age	Positive
Family size	Positive
Income	Positive
Premium	Negative
Expectation of future health risk	Positive
Employment status	Positive

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF RESULTS

4.0 Introduction

This chapter presents and analyses (descriptively and quantitatively) the results of the regressions run by STATA 11.0 using 405 participants. Also probit regression estimates were used in the discussion to find out the effect of age, income, employment status, family size, premium, gender, education etc. on the demand for NHIS. In this discussion all these factors mentioned shall be named as other.

4.1.0 Results and Interpretation

4.1.1 Descriptive analysis

On the whole, 500 respondents were sampled for the study but only 405 respondents were retrieved. The overall response rate was 81%. The socio-demographic profile of respondents in Table 1 below shows that out of the 405 respondent 222 constituting 54.81% were female whilst the remaining 183 (45.19%) being male.

Based on the study and as shown in table 1 below, one can confidently say that majority of people in the Nkoranza health directorate have some form of education. Only 51(12.59%) respondent out of 405 are uneducated. Out of the 405 respondent, 82 representing 20.25% have at least basic education, 99 representing 24.44% are educated to tertiary and majority of 173 (42.72%) having some form of secondary education.

In terms of employment status, majority of the respondents 288 (71.11%) are employed.

Table 4.1a Descriptive Statistics of Socio-Economic Variables Used in the Study

Enrolees Information/ Variable	Frequency	Percentage
Gender:		
Female	222	54.81
Male	183	45.19
Educational Background		
Uneducated	51	12.59
Basic	82	20.25
Secondary	173	42.72
Tertiary	99	24.44
Employment Status		
Employed	288	71.11
Unemployed	117	28.89

Source: Author's Field Work, 2013

Also from table 1 above majority of respondents in the Nkoranza health directorate are female with 54.81% with a percentage of 45.19 the males formed the minority out of the 405 respondents.

Table 4.1b Descriptive Statistics of Socio-Economic Variables Used in the Study

Variable	Mean value	Standard Deviation	Minimum value	Maximum value
Age	34.8321	16.18447	18	89
Income	438.644	330.107	50	1500
Family size	6.11358	2.968805	2	16

Source: Author's Field Work, 2013

In Table 4.1a above, a summary of the demographic and socio-economic characteristics of the respondents in the study area showed that, the age structure of the sample ranged between 18 years and 89 years. The mean age for the respondent was 34.83 years. Concerning the income level, the minimum income was GH¢50.00 and the maximum income was GH¢1500.00 with the average income being GH¢438.64. . It must be noted here that this income is strictly labour income. It does not include non-labour income (such as transfer payment etc). The study was interested in how much labour income respondents get in a month. Due to this those unemployed had no labour income except the few pensioners who still earn monthly income although unemployed.

4.2.0 Health Insurance Status of Respondent and Their Reasons

4.2.1 Insurance status

The National Health Insurance Scheme (NHIS) in Ghana was established by the National Health Insurance Act, 2003 (Act 650) and National Health Insurance Regulations, 2004 (L.I. 1809) with the view to improving financial access of Ghanaians, especially the poor and the vulnerable, to quality basic health care services and to limit out-of-pocket payments at the point of service delivery.

The individual’s questionnaire was designed to capture information on socio-demographic characteristics, knowledge and membership of the scheme of both the insured and non-insured leaving in Nkoranza.

Basic knowledge on the scheme is high of respondents hearing of the scheme largely through the electronic media; radio and television. Other sources were through: health staffs, community leaders, managers of the scheme, a relative and a member of the scheme. From the table below, out of the total 405 questionnaires retrieved 356 (87.90%) of the respondents had insured themselves with the NHIS whereas 49 (12.10%) have not registered. The registered members are willing to remain as members of the scheme to enjoy its benefits and the uninsured however mentioned some reasons preventing them from registering and stated that if these reasons were addressed they might join the scheme.

Table 4.2 Health insurance status of respondents

Insurance status	Frequency	Percent
Uninsured(previously insured+ never insured)	19+30	12.10
Currently insured	356	87.90

Source: Author’s Field Work, 2013

4.2.2 Views and perceptions on the scheme and service delivery

The insured respondents were asked the following questions to know their views about the scheme; is the services provided of good quality? Do you get all essential drugs from providers? Are you satisfied with service delivery? And are you asked to pay any extra fee at the point of delivery? These were their response to the question. The insured (62.50%) indicated receiving good quality of service with 37.50% stating otherwise. 65.11%

respondents also stated that some essential drugs were unavailable. Almost 72% of respondent stated that they were asked to pay additional fee at the point of service delivery whilst 28% said the opposite. The providers gave reasons that such drugs were not covered by the scheme. Findings of the survey indicate that respondents are generally satisfied with the performance of the scheme in the district; with 64.01% of the insured indicating they are satisfied and 35.99% reported being dissatisfied with performance of the scheme.

Table 4.3 Views and perceptions on the scheme and service delivery

Reasons	Yes (%)	(No %)
Is the services provided of good quality?	62.50	37.50
Do you get all essential drugs?	65.11	34.89
Are you satisfied with schemes delivery?	64.01	35.99
Do you pay any extra fee at the point of treatment?	71.61	28.02

Source: Author's Field Work, 2013

4.2.3Insurance fee or Premium

The demand theory postulates that the demand for a particular commodity is influenced by a number of factors. These can be grouped broadly into two namely: the price of the commodity itself (P) and the demand conditions. The premium is hence an important factor in determining the demand for health insurance.

The premium currently is set at a flat rate of GHs17. Children under 18 years, adults 70 years above, formal sector employees contributing to the Social Security and National insurance

Trust (SSNIT), and indigents are exempted from paying annual premiums. There was no evidence of payment of premium based on income levels as enshrined in the law.

When respondent were asked whether they view premium to be expensive, 124 (30.62%) responded in the affirmative while the remaining majority of 281 (69.38%) view premium as not expensive. Although only 124 respondents view premium to be expensive but this number is more than the number of uninsured. The issue here is that even if all uninsured (49) view premium as expensive then there were some insured who also agreed to this. The researcher tried to find out why they were still insured if the price of health insurance was expensive, some gave the reason that the satisfaction or benefit they will derived for being insured outweigh the price, others were of the view that they are exempted from paying annual premiums. To them they would not have insured if they were allowed to pay.

Table 4.4 Respondent view on premium

Is premium expensive?	Frequency	Percentage
Yes	124	30.62
No	281	69.38

Source: Author's Field Work, 2013

4.2.4 Reasons for joining NHIS

Among the registered group, the motivation for registering was to protect themselves financially against illness. 63.79% of the respondent insured strongly agree to this whilst only 1.72% strongly disagrees to this. 72% of respondent strongly agreed that their reason for insuring was due to the fact that they unsure of any future health risk and implications but 4.47% disagree to this. Other reasons mentioned are getting free and frequent health services

anytime, 33.22% agreed to this whilst 0.69% disagree to this, 67.99% strongly agree that affordable premium motivated them to register but 19.44% of registered strongly disagree to this. 63.79% of female respondents strongly agreed that having access to free ante natal clinic is one of the main reasons they insured.

Table 4.5 Reasons for enrolment

Reasons for participating in NHIS	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree (%)
Financial protection against illness	63.79	33.79	1.72	0.69
Unsure of future health risk	72	18.50	5.13	4.47
Have access to free and frequent health services	64.01	33.22	2.08	0.69
Have access to free ANC	71.61	18.06	1.29	9.0
Premium (not expensive)	67.99	8.53	19.44	4.04

Source: Author’s Field Work, 2013

4.2.5Barriers to Enrolment

For the uninsured, the most pressing reasons retarding participation is that they are not satisfied with the treatment of health services meted to patients on health insurance scheme 79.31% strongly agreed to this reason but 1.72% disagree. Other reasons hindering ones enrolment is not having confidence in the scheme, 67.24% uninsured strongly agreed to this. Expensive premium was also stated as a reason for not insuring, 63.97% of respondents



strongly agreed they do not have the money to pay the premium whilst 19.44% strongly disagree.

Table 4.6 Reasons for not enrolling

Reasons for not participating in NHIS	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree. (%)
Premium expensive	63.97	31.69	0.79	3.72
Not satisfied with treatment meted for NHIS patients	79.13	13.79	5.17	1.72
Do not have confidence in scheme	67.24	19.83	8.62	4.31

Source: Author's Field Work, 2013

4.2.6 Reasons for not renewing

As at the time of the study 130 respondent were uninsured. This figure comprises those who were once insured but for some reasons are no longer members of NHIS, 66 respondent constituting 50.77% of the uninsured. This group of respondent tested to the fact that they were not satisfied with their health service providers 50% of them strongly agreed to this. Other reasons they stated were that they could not afford renewal fees and also that there were delays in processing cards.

Table 4.7 Reasons for not renewing membership

Reasons for not renewing membership into the scheme	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree (%)
Cannot afford renewal fee	35.82	13.43	25.37	25.37
Delays in card processing	42.42	21.21	24.24	12.12
Not satisfied with their health providers	50.00	30.30	10.61	9.09

Source: Author's Field Work, 2013

4.2.7 Challenges about scheme delivery

When respondents were asked what they do consider as challenges about the scheme delivery, almost 51% of respondent strongly agreed that the most pressing challenge was the fact that there were too many bureaucracies with registration and renewing of membership. Other challenges mentioned are lack of commitment and good customer services from NHIS staff, 49.63% strongly agreed to this as shown in table 8 below.

Table4.8 Challenges about NHIS delivering

What do you consider challenges about NHIS delivery	Strongly agree (%)	Agree (%)	Strongly disagree (%)	Disagree (%)
Poor customer service from NHIS staff	49.63	26.91	3.70	19.75
Too much bureaucracies with registration and renewing of card	51.36	29.63	3.95	15.06

4.3 Quantitative Analysis

In the ensuing analysis of the regression results, a positive sign of an estimated coefficient implies that increases in that particular variable tend to improve (increases) the dependent variable in question and a negative coefficient predicts otherwise. Also, the significance of a parameter estimate is determined by the p – value of that particular parameter. The p – value should be or below 0.05 for that parameter to be significant at 5% error level. The overall tests of significance for the models are also based on Likelihood Ratio whose p – values should be or below 0.05 for a particular model to be significant at 5% error level.

4.3.1 Probit Regression Analysis

To ascertain the effect of the factors that determine people's participation in National Health Insurance Scheme (NHIS), the probit model was employed reporting both coefficients and marginal effects. According to the table 4.9 below, while some of the variables considered in this analysis such education, income, expectation of future health risk, employment, gender and family size relate positively to NHIS participation, other variables like premium relate inversely with health insurance participation. This means that an increase in all of the variables (except premium) will lead to expansion in respondents' participation in health insurance.

Table 4.9: Probit Regression Estimates

Dependent variable: NHIS Participation	Estimates		
Explanatory Variables	Coefficient	Standard Error	P – value
Basic	1.920693	.4039946	0.000
Secondary	1.950974	.3604288	0.000
Tertiary	2.231867	.5399771	0.000
Unsure	.648338	.2802485	0.021
Female	.0688537	.2409855	0.775
Employed	1.464256	.3201658	0.000
Premium expensive	-.0017624	.2652509	0.995
Age	.006097	.0074967	0.416
Income	.0002744	.0004595	0.550
Family size	.0744086	.0382153	0.416
Constant	-2.249674	.612417	0.000

Source: Author's Field Work, 2013

With respect to NHIS participation all variables met the study's expectations but not all of these variables are significant since some p – values were more than 0.05. The result shows

that the coefficient of education dummies (basic, secondary and tertiary) are positive and significant as well as indicating that having access to education increases ones probability of enrolling on NHIS. Again, as one's income rises, he/she is able to afford the insurance fee and will therefore participate on the insurance scheme. This is shown by the positive coefficient but this was insignificant. One is also more likely to get health insurance if he/she is unsure of any future health risk and implication, hence the positive coefficient. This was also significant with a p-value as low as 0.021.

Premium impacted negatively on the probability that one gets insured. This means the higher the insurance fee the more likely people will not enrolled on NHIS. This was insignificant with a p-value above 0.05. The size of family impacted positively on probability that one gets health insurance and was not significant with a p-value of 0.05. Literatures have it that as ones ages he/she consumes more health care due to the deterioration of his health status or outcome and hence is likely to insure. The positive sign confirms to this but with p-value more than 0.05 makes it insignificant.

Furthermore, the expectations of the signs concerning employment status met the study's expectations and they significantly impacted positively on NHIS participation. It was expected that as one get employed he/she will participate or enrolled on the NHIS since he could earn labour income which will give him the purchasing power to demand NHIS since he could now afford the insurance fee.

4.4 Discussion

The study revealed that majority of the respondents in the Nkoranza health directorate has registered with the NHIS. The most important motivation for registering was to protect them against any unexpected future health risk or illness, 72% of respondent strongly agreed but 4.47% disagree to this. Other reasons mentioned are getting free and frequent health services

anytime, affordable premium motivated them to register and female respondents strongly agreed that having access to free ante natal clinic is one of the main reasons they insured.

For the uninsured, the most pressing reason retarding participation is that they are not satisfied with the treatment of health services meted to patients on health insurance scheme 79.31% strongly agreed to this reason. Other reasons hindering ones enrolment is not having confidence in the scheme and expensive premium was also stated as a reason for not insuring.

This stems from the fact that some feel those with insurance are not better treated when sick. Others also feel the processing of the cards delay too much. For them until these issues are addressed they will not join. These views confirm Nketiah-Amponsah (2009) theory that the decision for an individual to insure or not depends on the expected utility. For the insured group, since their expected utility for insuring (avoid unexpected healthcare costs) far exceeds the expected utility of not insuring ($EU_{i1} > EU_{i0}$), they have registered in spite of the perceived teething problems. On the contrary, for the uninsured group, the problems are so grievous that their expected utility for insurance is less than that of not insuring ($EU_{i1} < EU_{i0}$).

The insured respondents shared their views and perception about the scheme. It was surprising to know that (62.50%) indicated receiving good quality of service with 37.50% stating otherwise. 65.11% respondents also stated that some essential drugs were unavailable. Almost 72% of respondent stated that they were asked to pay additional fee at the point of service delivery whilst 28% said the opposite. Findings of the survey indicate that respondents are generally satisfied with the performance of the scheme in Nkoranza; with 64.01% of the insured indicating they are satisfied and 35.99% reported being dissatisfied with performance of the scheme.

Some challenges were mentioned with reference to scheme delivery, almost 51% of respondent strongly agreed that the most pressing challenge was the fact that there were too

many bureaucracies with registration and renewing of membership. Other challenges mentioned are lack of commitment and good customer services staff, 49.63% strongly agreed to this and inability to pay claims on time, 44.55% strongly agreed. This is shown in table 4.8 below.

Again, the literature has shown that various factors determine people's decision to participate in health insurance. As a result, this study sought to find out how eight (8) of these variables namely premium, income, age, education, family size, gender, expectation of future health risk and employment status, influence residents of Nkoranza to participate in health insurance. All these variables met the study's expectations and this conformed to the a priori expectations indicated by Jütting (2003) and Nketiah-Amponsah (2009) as relating positively (education, income, unsure of future health risk) and negatively (premiums) to participation. However not all these variables are significant since some p – values were above 0.05. Variables such as employment, education, unsure of future health risk and family size had a positive significant impact on the probability that a person will demand health insurance. This means that we have to accept the null hypothesis H_0 that these variables are important determinant of health insurance participation in the Nkoranza health directorate. The positive sign of income also implies that, the higher a respondent's income, the higher the degree that, the respondent will demand health insurance. The positive coefficient of gender implies that being a female positively impact on the probability that one will demand insurance. The insignificant of some variables such as age, income and gender goes contrary to some of postulations in the literatures reviewed in this paper. For instance the postulation by Jütting (2003) as well as Nketiah-Asamoah, 2009) that age and income will increase health insurance participation. These deviations may be attributed to the small sample size as well as differences in the demographic characteristics of the study area.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.0 Introduction

This study was basically carried out to find out the key factors that determine people's decision to participate in the NHIS in the Nkoranza health directorate. It was also to find out reasons retarding people's participation. In doing so, the researchers employed both secondary and primary data to elicit information for the study. Whereas secondary data was collected by consulting books, journals, newspapers and internet sources; the primary data was collected using structured interview and questionnaire. This chapter, therefore, presents the summary of major findings of this study, conclusions from the entire study as well as policy recommendations.

5.1 Summary of findings

The study revealed that education, family size, employment opportunities and unsure of future health risk are important determinant of health insurance participation in the Nkoranza health directorate. Meanwhile, consistent with theory, these variables found to influence health insurance participation directly. However, the most important reason why people participate is to avoid/reduce unexpected healthcare expenses in the event of illness. Others include affordable premium, getting free and frequent health services anytime, motivated them to register and female respondents strongly agreed that having access to free ante natal clinic is one of the main reasons they insured.

For the uninsured, the most pressing reason retarding participation is that people perceive there are problems with the Scheme which need to be addressed. The reason is that some feel those with insurance are not better treated when sick. Others also feel the processing of the cards delay too much. As at the time of the study 49 respondents were uninsured. This figure comprises those who were once insured but for some reasons are no longer members of

NHIS, 19 respondents of the uninsured. This group of respondents tested to the fact that they were not satisfied with their health service providers 50% of them strongly agreed to this. Other reasons they stated were that they could not afford renewal fees and also that there were delays in processing cards.

Too many bureaucracies with registration and renewing of membership and lack of commitment and good customer services from NHIS staff were some challenges faced by the scheme. The insured respondents shared their views and perception about the quality of service, whether essential drugs were made available and if they were asked to pay any extra fee at the point of treatment. Whilst some answered positively others said the reverse. 64.01% of the insured indicated they are satisfied and 35.99% reported being dissatisfied with performance of the scheme.

From the probit regression analysis variables like education, premiums, employment, income, unsure of future health risk met the study's expectations and this conformed to the a priori expectations indicated by Jütting (2003) and Nketiah-Amponsah (2009) as relating positively (education, employment, income, unsure of future health risk) and negatively (premiums) to participation. In addition not all these variables are significant since some p – values were above 0.05. The size of the family did not only meet prior expectation but was also significant with a p-value greater 0.05. Some other variables such as age, gender, premium and income go contrary to some of postulations in the literatures reviewed in this paper. These deviations may be attributed to the small sample size as well as differences in the demographic characteristics of the study area.

5.2 Conclusion

From the revelations above, it can be concluded that, Employment status of the people, the level of education and expectations of future health risks has a positive significant impact on

the probability that a person gets health insurance. On the basis of the above, as far as the Nkoranza Health Directorate is concerned these are important determinant of health insurance participation. Other factors such as age, gender, income, family size and premium do not significantly affect the demand for health insurance.

It can be concluded further that, the fear of incurring huge healthcare cost when illness, affordable premium and having free and frequent health services motivate people greatly to participate in NHIS. Getting access to free ante natal clinic is also a motivation for most female to insure.

The uninsured are not insuring because they perceive the Scheme is bedevilled with so many problems and unless these problems are solved they will not insure. According to Carrin et al. (2005), trust in the integrity and competence of managers of schemes may have an effect on enrolment. These bottlenecks, when addressed can help improve the coverage and membership of the scheme. Some insured respondent also showed dissatisfaction with delivery of service of the scheme. The uninsured are not insuring because they perceive the insurance fee was very expensive and those not renewing their membership also mentioned renewal fee as not affordable. Some variables met prior expectations and very significant. The insignificance of some variables may be attributed to the small sample size and differences in behavioral characteristics of the study area.

5.3 Policy Recommendations

This study would recommend that, the Government of Ghana and certain key institutions institute measures and affirmative action's that will increase the enrolment of the population in schools since the study showed that education had a significant positive impact on the demand for NHIS. Formal education should be given attention so that majority of the people

get access to education to at least basic school level. Thus, educational policies should, therefore, be geared towards increasing enrolment and quality in schools.

In addition since employment opportunities had a positive significant impact on the probability that one demand for health insurance, it is very important that measures and policies are instituted towards providing employment opportunities among the population. Issues of unemployment should be quickly dealt with. Policies such as SADA which aimed at providing jobs opportunities should be encouraged.

Also this study would recommend that the National Health Insurance Authority (NHIA) must do well to reduce the duration for card processing and intensify their supervisory role to ensure that providers work to justify their claims.

After revealing that lack of confidence in scheme and poor service delivery are reasons for some respondents not enrolling on the scheme, there is also the need to establish permanent and functional structures of arbitration to constantly engage the scheme management, healthcare providers and subscribers in order to minimize the mistrust and improve uptake and service delivery.

The NHIA together with the Schemes must encourage registered clients to renew on time so that they do not incur arrears thereby preventing them from registering. In this vein, promotions can be organized by the Schemes to induce people to renew or register.

There should be intensive education especially on the benefit package. More client-oriented community education on the benefits of the scheme and membership registration at community durbars, major market days should be undertaken to improve access and coverage. Some respondents are not aware that 95% of the drugs are covered and for that matter cite as reason for their non-participation.

Policy makers should therefore institute measures to check additional fees that providers charge at the point of service use by NHIS patients since such additional fees have been found to reduce the trust in the scheme and deter others from enrolling.

Finally the study would recommend that, all stakeholders in the combat against maternal mortality and child mortality rates and to improve attainment of MDGs 4 and 5 should ensure that mothers continue to access the full package of antenatal, deliveries and postnatal care at accredited health facilities free of charge.

5.4 Limitations of the study

The major limitation of the study had to do with the sample size. The sample size used for the study was small. This was due to financial and time constraints. The probit models employed by the study use Maximum Likelihood Estimation (MLE) which requires a larger sample size for the efficiency and significance of the estimated parameters. Thus, the statistical insignificance of some of the estimated parameters could be as a result of the small sample size. There were some difficulties in assessing information because some respondents attached less importance to questionnaires. Also covering the entire communities and administering the questionnaires to the people was a challenge. Finally, resources and time constraints were some other challenges that were encountered.

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APPENDICES

APPENDIX I

SURVEY QUESTIONNAIRE

Determinants of demand for health insurance: Nkoranza Health Directorate in the Brong-Ahafo Region.

This study is being conducted in partial fulfilment of the requirements for the award of a Master of Arts degree in Economics. All information received would be used solely for academic purposes and treated with strict confidentiality.

1. Age [.....]
2. Sex [☐ Female ☐ Male
3. Employment status ☐ Employed ☐ Unemployed
4. Mean monthly income [GHS.....]
5. Marital status ☐ Married ☐ Never married ☐ Divorced
6. Educational Background ☐ None ☐ Basic ☐ Secondary ☐ Tertiary
7. Religion [☐ Christian ☐ Muslim ☐ Traditional
8. Family size [.....]
9. Insurance status ☐ Currently insured ☐ Previously insured [☐ Uninsured
10. Do you think the insurance fee /premium is expensive? [☐ Yes ☐ No
11. If you are currently insured answer questions 14,15, 16 and 19
12. If you are uninsured as at the time of the study answer questions 17 and 19
13. If you were previously insured but as at the time of study you are uninsured answer questions 18 and 19
14. Are you sure of any future health risks and implication? [☐ Yes ☐ No
15. Reasons for enrolling on NHIS

a. Financial protection against illness

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

b. Affordability of premium

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

c. Have access to free and frequent health services anytime

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

d. Have free access to ante natal clinics (ANC)

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

16. What are your perception about the scheme and service delivery

Are services provided of good quality? ☐ Yes ☐ No

Do you get all essential drugs? ☐ Yes ☐ No

Do you pay any extra fee at the point of treatment? ☐ Yes ☐ No

Are you satisfied with the scheme and service delivery? ☐ Yes ☐ No

17. Reasons for not enrolling on NHIS

a. Cannot afford premiums or health insurance fees ☐ strongly agree ☐ Agree ☐ disagree ☐ strongly disagree

b. Delays in card processing ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

c. ~~Not satisfied with the treatment~~ of health service staff meted to patients on health insurance scheme ☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

18. Reasons for not renewing membership into the scheme

a. Could not afford renewal fee ☐ strongly agree ☐ agree ☐ disagree
☐ strongly disagree

b. Do not have confidence in the scheme

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

c. Not satisfied with health service providers

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

19. Challenges of the scheme

a. Too many bureaucracies in registration and renewal of membership

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

b. Poor customer services from NHIS staff and service providers

☐ strongly agree ☐ agree ☐ disagree ☐ strongly disagree

APPENDIX II

Probit insured expensive yes female basic secondary tertiary Employed Familysize Income
Age

Iteration 0: log likelihood = -115.62589

Iteration 1: log likelihood = -83.422364

Iteration 2: log likelihood = -80.082379

Iteration 3: log likelihood = -78.789745

Iteration 4: log likelihood = -77.929474

Iteration 5: log likelihood = -77.926006

Iteration 6: log likelihood = -77.926006

Probit regression

Number of obs = 368

LR chi2(10) = 75.40

Prob > chi2 = 0.0000

Log likelihood = -77.926006

Pseudo R2 = 0.3261

insured	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
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expensive	-.0017624	.2652509	-0.01	0.995	-.5216446	.5181199
yes	.648338	.2802485	2.31	0.021	.099061	1.197615
female	.0688537	.2409855	0.29	0.775	-.4034692	.5411766
basic	1.920693	.4039946	4.75	0.000	1.128878	2.712508
secondary	1.950974	.3604288	5.41	0.000	1.244546	2.657402
tertiary	2.231867	.5399771	4.13	0.000	1.173532	3.290203
Employed	1.464256	.3201658	4.57	0.000	.8367425	2.091769
Familysize	.0744086	.0382153	1.95	0.052	-.0004919	.1493092
Income	.0002744	.0004595	0.60	0.550	-.0006261	.0011749
Age	.006097	.0074967	0.81	0.416	-.0085962	.0207902
_cons	-2.249674	.612417	-3.67	0.000	-3.449989	-1.049359

Note: 0 failures and 7 successes completely determined.