SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA

FACTORS CONTRIBUTING TO THE LOW REGISTRATION OF NATIONAL HEALTH INSURANCE SCHEME (NHIS) IN KASSENA-NANKANA DISTRICT (KND) IN UPPER EAST REGION, GHANA

BY

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DECLARATION

I hereby declare that with the exception of references to other people's work, which have been duly acknowledged, this work is the result of my own research work, done under the supervision, and has neither in part nor whole been presented elsewhere for another degree.

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DEDICATION

This work is first dedicated to Almighty God for His help, guidance and sustenance throughout this programme. Secondly, it is dedicated to my dear wife **Helena** and my young daughter **Immaculate**, for allowing to pursue this course as I was absent from the home most of the time due to academic work. Lastly it is dedicated to my uncle **J. K. Prah** for his contribution towards my education.

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TABLES AND FIGURES

LIST OF ACRONYMS (ABBREVIATIONS)

CBHF.....Community Based Health Financing

CDI .....Centre de Développement Intégré

CHIs.....Community Health Insurance scheme

CHPS.....Community Health Planning Services.

DHMT.....District Health Management Team

GHS.....Ghana Health Services

GK..... Gonosasthya Kendra scheme in Bangladesh

HF.....Health Facility

HHH..... ...Household Head

HW.....Health workers

KND.....Kassena-Nankana District

MOH.....Ministry Of Health

NHIS ..... National Health Insurance Scheme

SSS.....Senior Secondary School

WCA.....West and Central Africa

WHO.....World Health Organisation

ABSTRACT

Health insurance is a method of financing health care in which payment for health care is made at a time that one is sick. It is a policy of the Government of Ghana to replace the previous cash and carry system with the Mutual Health Insurance Scheme since the previous method makes health care financially inaccessible to the citizenry especially the poor and the vulnerable.

Even though much education on the scheme has been carried out in the district since its inception through durbars, use of the local FM station, organized talks at the churches and the health facilities; registration in the scheme in the KND is still low, only 8.34% of the inhabitants have registered as compared to the national target of 50% registration by the end of 2006. Therefore the purpose of this study was to determine the factors contributing to the low participation in the scheme.

Some of the factors studied include age group, gender, level of education and occupation of the household heads who have not registered and registered with the scheme. Geographical accessibility of health facilities within the district, the method of payment of the premium that the inhabitants prefer and the community's participation in the establishment of the scheme were also studied.

The assumption posed in the study was that there was no difference in the characteristics of household heads who have not registered and those who have registered with the

scheme. Hypothesis tested was that there is difference between characteristics of household heads who have registered and not registered.

The study was a case control study across the whole Kassena-Nankana District (KND). This method was chosen because it provides the means of comparing the characteristics of those who have not registered (cases) with those who have registered (controls). The cases were all household heads between the ages of 18 years and 69 years who have not register with the National Health Insurance Scheme (NHIS) and reside permanently in KND whilst the controls were all household heads with the same characteristics but who have registered with the scheme. The method used was random sampling using Epi Info. The sample size was 320 consisting of 160 each of cases and controls. The nearest neighbour who is of the same sex as the case was selected as the control.

The result from the study shows that there are differences in characteristics of the household heads who have not registered and those who have registered. It was observed that within KND, females were 75% times more likely to register in the scheme as compared to males (OR= 0.25, p-value= 0.02). Also household heads with 3 or more dependents were 85% more likely to register with the scheme as compared to those with 2 or less. On the other hand household heads within the age groups 40-49 and 60-69 years were 5.21 times more likely not to register as compared to those within 20-29 years. Again as compared to civil servants, farmers (5.73 times) and unemployed (1.97 times) are less likely to register.

With reference to community factors, it was revealed that those who have access to health facilities are rather 3.34 times more likely not to register as compared those who do not have access.

Community members who believe that they a role to play in establishing the scheme were 73% more likely to register than those who believe they do not have any role to play. Lastly the respondents who obtained all their drugs at the health facilities during the last six months are 3.55 times more likely not to register.

It is therefore recommended the scheme manager and his staff should intensify their education to convince the males especially to register. The education campaign should emphasize that the community members have a role to play to make the scheme successful. Lastly, the scheme manager should employ the necessary mechanisms to be able to identify all the core poor within the district so as to enjoy the exemption policy instituted by the government.

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CHAPTER ONE

1.0 INTRODUCTION

1.1 Healthcare Financing

The world is faced with an urgent problem of financing and providing health care for the 1.3 billion poor people who live in low-and middle-income countries. Many poor people, especially in developing countries, lack access to effective and affordable health services, largely because of weaknesses in the financing and delivery of health care. Although 93% of the global burden of disease falls on 84% of the world's poor, unfortunately, funds for health care from government has been inadequate (Tenkorang, 2001).

Funding health care has therefore become a source of worry to most governments in both industrialized and developing countries. Some of the various ways of financing health care are fees for services and insurance, tax revenue, loans and grants and donations. The method of financing health care services selected depends on factors like effects on equity, revenue-generating ability of the system, participation in decision making, effects on services provision, viability and ease of use of the system. (Green, 1996)

A combination of general taxation, social insurance, private health insurance and limited out-of-pocket user charges has become the preferred instrument for health financing in middle-and higher-income countries (Preker et al, 2002).

Health care financing options for low income countries are, however, more restricted. These countries often have large populations in the rural and informal sectors, which

limits the effective taxation capacity of their governments. In middle-income and upper-income countries, large segments of the population work in urban settings and the formal employment sectors, and it is relatively easy to tax workers at source and design health care systems financed by government or payroll taxes (Preker et al, 2002).

Different actors finance the health care system in Ghana: Government of Ghana through direct budget allocation and local government common fund; households, Non-Governmental Organizations (NGOs) that assist religious hospitals and clinics; and the donor community. Others include employment-based insurance or re-imbursement after employees have paid (Osei, 2003).

The government remained the single largest contributor of funds to the health sector. However, household constituted the largest single source of financing of health services, with 50% of health spending coming out of the people's pockets. Households purchase health services from formal and informal providers including pharmacists from the government facilities under the cost recovery program (cash and carry) (WHO, 2001.) Currently government funds 80% of the public health services bill through general taxation and donor funds and 20% from user fees. Health insurance and other pre-payment schemes still remain under-developed (GHS, 2004).

1.2.0 BACKGROUND INFORMATION ON HEALTH INSURANCE IN DEVELOPING COUNTRIES

The government of most low-income countries has not been able to fulfill the health care needs of the poor, and especially of the rural population. Decreasing budgetary support for health care services, low quality of public health services, and the resultant imposition of user charges demonstrates the government's inability to meet health care needs of the poor (Tenkorang, 2001).

The global community was therefore faced with formidable challenges of how to increase health care access in the developing world including Africa. During the 1980s and 1990s, health sector reforms intended to improve the efficiency of health systems and the quality of care provided were implemented by African governments with the endorsement of their international and bilateral donor partners. In many countries these reforms included the introduction or consolidation of cost recovery mechanisms, in particular out-of-pocket fees which had the unintended effect of decreasing access to health care by the poor.

The uncertainty about the timing of illness, and the unpredictability of health care costs required for episodes of illness, and the low and irregular income of individuals make it virtually impossible for households to make financial provision for illness-related expenditures. User fees constitute a major part of such expenditures and have contributed significantly to increase the exposure of poor households to financial risks associated with illness (Tenkorang, 2001).

These poor households therefore, when ill, first rely on home-remedy. Unsuccessful self-treatment then leads to having to pay for extensive use of out-patient services from traditional healers, private practitioners and pharmacists. In many countries, the patients have to pay for the in-patient hospital services, many of whom have to bankrupt their family to pay for the services or forgo the treatment and die (Atim et al, 2000). People who were unable to afford the cash deposit required before treatment would leave behind personal belongings such as blankets as their guarantee of payment, but many of these people did not return to pay the bills and reclaim their personal items.

These "health care crises" led to the emergence of many community-based health insurance schemes or community financing schemes in different regions of Africa. Formation of these schemes were also motivated by a need to find an alternative to user fees as rising bad debts threatened the hospital's financial position. Examples of insurance schemes in Africa are the Carte d'Assurance Maladie in Cameroon, program in Burundi, Community Health Fund (CHF) in Tanzania, Nkoranza Community Financing Health Insurance Scheme and Dangme West Health Insurance Scheme in Ghana (Tenkorang, 2001).

1.3 HISTORY OF HEALTH INSURANCE IN GHANA

Immediately after independence, health care provided to the people of Ghana was free. The sustainability however became a problem with the decline in the economy in the 1960's and 1970's. As a way of controlling abuse of the health system, "Hospital user fee" was introduced in 1969 under the Hospital fee Decree 1969(NLCD 360). In this

case, patients paid "nominal fee" and the rest was absorbed by the government (Lund, 2003). The cost aspect introduced, however, resulted in some category of people being unable to access health care. An exemption policy was therefore introduced to take care of children (under 5 yrs), the aged (70 yrs and above), antenatal care and other specified emergencies.

To make health care equitable, accessible and affordable to everybody, government introduced the National Health Insurance Scheme (NHIS) policy in 2003 under the NHI Act, 2003, Act LI 650 and implementation started in some communities in 2004.

Since socio-economic conditions of all residents in Ghana are not the same, and the contributions must be affordable to all to ensure that nobody is forced to remain in "cash and carry", there could be no standard contribution for all Ghanaians in the country. Depending on ones income, the minimum amount any adult (between 18 and 69yrs) resident in Ghana is supposed to pay is 72,000.00 cedis. (MOH, 2004)

It must also be noted that, all Ghanaians, are going to pay 2.5% Health Insurance Levy on selected goods and services to be put into a National Health Insurance Fund to subsidize all fully paid contributions to the District Health Insurance Schemes (MOH).

1.4.0 THE NATIONAL HEALTH INSURANCE SCHEME (NHIS).

The idea behind health insurance schemes is for the members to pool their resources together and that of risk sharing. The members prepay to a health insurance scheme,

instead of making direct payment at the time of illness. The aim of health insurance is to spread the risk of health care cost among the members of the scheme. Therefore the larger the members of the scheme, the lower the risk burden on the individual members (Tenkorang, 2001).

The distribution of the population in Ghana is about 70% informal and 30% formal sectors of the economy (MOH, 2004). The two main problems with informal sector of the economy, in relation to health insurance, are the difficulty in collecting contributions (Tenkorang, 2001) and the fact that most people, at least 40%, live below the poverty line and may therefore not be able to afford high premiums (MOH, 2004).

The two main types of insurance schemes to be operated under the National Health Insurance Scheme are the Social Health Insurance Scheme and the Commercial private health insurance scheme (MOH, 2004).

1.4.1 The social health insurance scheme (MOH, 2004).

It is a non-profitable scheme. The two main types are the District Mutual Health Insurance Scheme and Private Mutual Health Insurance Scheme. The concept of the District Mutual Health Insurance Scheme is a fusion of the traditional Social Health Insurance Scheme for formal workers and the traditional Mutual Health Organizations for the informal sector with a district focus.

The Private Mutual Health Insurance Scheme may be formed by any group of persons in Ghana but it shall not be necessarily have a district focus. It will not receive any subsidy from the government.

1.4.2 Commercial private health insurance scheme

It refers to the health insurance that operates for profit based on market principle. Premium paid depends on the risks of particular groups or individuals incurring health care cost. Therefore those with higher risk pay more. The ownership of the private health insurance scheme resides with a company and shareholders (MOH, 2004).

1.5 BASIC PRINCIPLE UNDERLYING THE HEALTH INSURANCE SCHEME

The health insurance scheme has been designed with the aim to offer health care access to the poor and vulnerable in society. Thus the design would take into account the following principles;

Equity: means everybody has equal access to the minimum benefit package irrespective of the person's socio-economic background (MOH, 2004)

Risk-equalization: The scheme should ensure that disease burden and mortality patterns serve as one of the basis for allocating financial resources to geographical areas of the country. The cost of care varies depending on the disease burden in the geographical area.

Solidarity: is a desired virtue in social health insurance.

Efficiency: in the collection of contributions and claims administration (Atim, 2001).

1.6 STATEMENT OF THE PROBLEM.

The health sector of most developing countries of the world takes a big percentage of the national budget and Ghana is no exception. This is informed by the fact that the quality of the health service that a nation provides is one of the determining factors of the calibre of that country's human resource base and level of productivity. In the world's poorest countries, most people, particularly the poor, have to pay for health care from their own pockets at the time they are sick and most in need of it.

About 18% of the Ghanaian population requires health care at any given time and out of this only 20% are able to access it. This means that about 80% of Ghanaians who need health care cannot access it due to affordability (MOH, 2004). An estimate of about 40% of the population do not have physical access to health services while the remaining 60% who have physical access are constrained by poverty and socio-cultural norms from having access to the health care.

To address this problem of financial access to health, government is replacing the cash and carry system with a health insurance scheme that would improve financial access to health care in the country. It is estimated that by the end of this year (2006), about 50% of Ghanaians (and hence Kassena-Nankana District, KND) should have registered with the scheme. As at January 2006, only 17.6% of Ghanaians had registered. As at the same time, in KND, only 13,176 out of 157,896 (that is only 8.34%) people had registered. Even though much education about the scheme has been done through the local FM station, at churches, at the health facilities and any other social gathering, not much has been achieved in terms of registration.

Whereas the actual or potential benefits of health insurance schemes have been described in the literature, surprisingly very little has been said so far on the determinants of participation in these schemes, therefore this research is being conducted to determine factors that militate against registration with the health insurance scheme in the district.

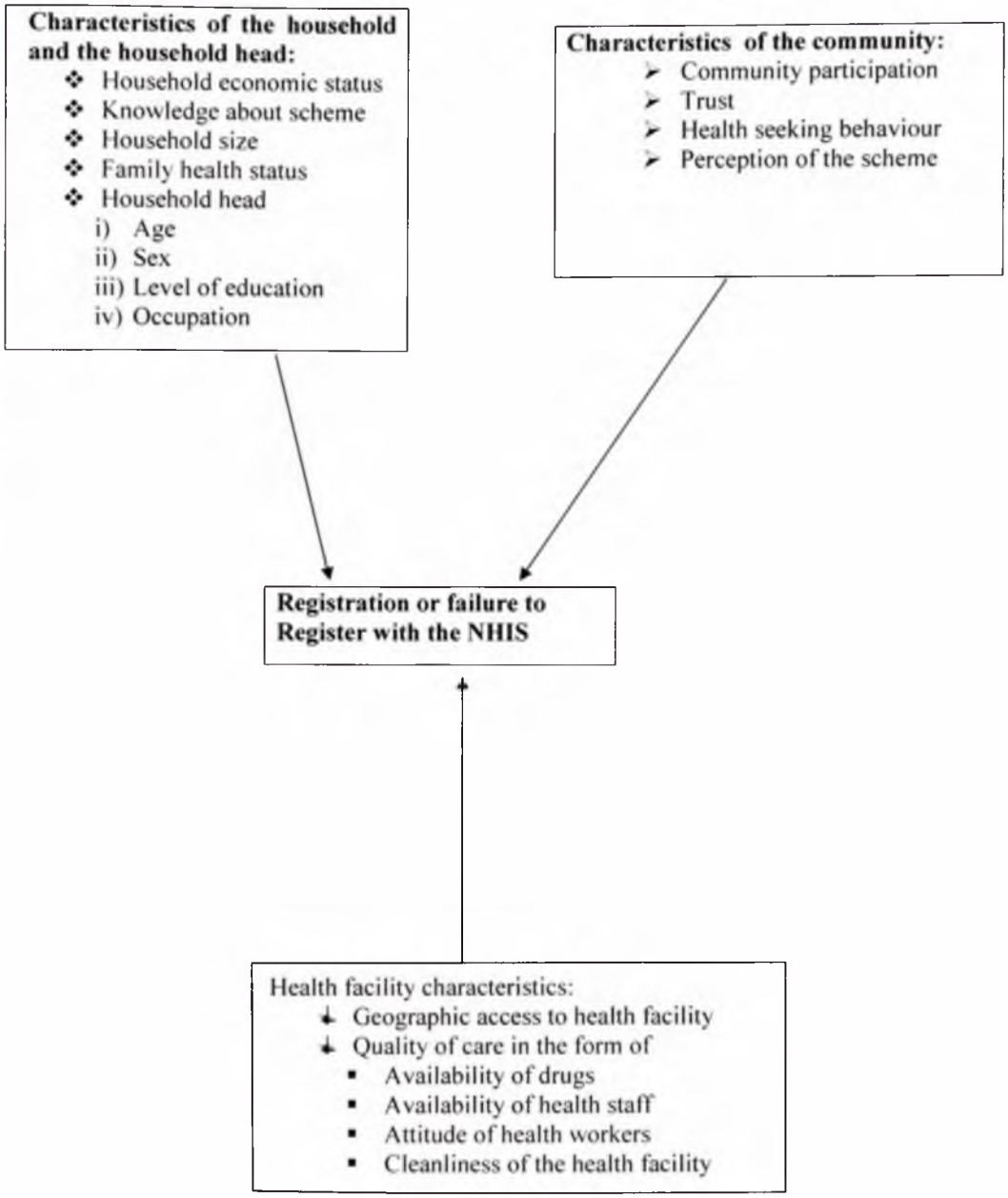
1.7 HYPOTHESIS

The hypothesis is that there is a difference in the characteristics of household, the characteristics of the community and access to quality of health services that influence household registration status.

1.8 RATIONALE OF THE STUDY.

NHIS is a method of financing health services which is to replace the 'cash and carry' and make health care accessible and affordable to the poor. This mode of payment for health services separates the time of utilization of health care from time of payment. Even though this method of payment for health services is believed to be better than the previous cash and carry, it is not well patronized throughout the country with KND being among the least patronized districts. Therefore this research is being carried out to generate useful information on the factors contributing to the low registration of the scheme, and how to improve its acceptance among the people of KND. It is also to make the necessary recommendations and the information available to policy makers in the planning and implementation of the NHIS in KND and the country as a whole.

Fig 1 CONCEPTUAL FRAMEWORK



1.9.0 OBJECTIVES

1.9.1 General Objectives

To identify the factors accounting for the low registration in the National Health Insurance Scheme in Kassena-Nankana District.

1.9.2 Specific Objectives

1. To determine the household head (HHH) characteristics that hinder registration.

i. To determine the age group and gender who are not registering with the scheme.

ii. To determine the education level and occupation of those not registering with the NHIS

iii. To determine the average number of visit to the health facility and the amount spent on each visit.

2. To identify community factors that affect registration.

i. To determine how easy it is to access the health facilities within the district.

ii. To determine the community's participation in setting up the scheme

3. To determine institutional factors that militates against registration

i. To determine the attitude of health workers that prevents people from registering

ii. To determine whether patients were able to obtain all their drugs at the health facility.

iii. To determine whether cleanliness of the health facility affects registration in the NHIS

CHAPTER TWO

2.0. LITERATURE REVIEW.

2.1 Health Insurance.

Health insurance is a mechanism whereby the risks of incurring health care costs are spread over a group of individuals or households. It is designed to provide risk sharing for illness-related events and which is accessible to households in the low-income countries. The aim of Health insurance is to empower communities to meet their health financing needs through pooling of resources to pay for health care as a group. However, unlike many insurance schemes, health insurance schemes are typically based on the concepts of mutual aid and social solidarity (Bennett et al, 2004 and Yann et al, 2005).

Risk-pooling is principle beneficial because those members who need health care will gain access to it in an affordable and timely manner. In other words, it will allow financial resources to be shared between the healthy and the sick. Furthermore, especially when health care is costly, risk-pooling can be an effective device to protect households from excessive health care expenditure.

In a WHO report on health insurance schemes in developing countries, it was revealed that community-based health financing is effective in reaching low-income populations that would not otherwise have financial protection against the cost of illness. Improved financial protection was achieved through reducing scheme members' out-of-pocket spending, while increasing their use of health care services (WHO, 2003).

Health insurance for the poor is feasible under certain conditions and it has positive effect on the economic and social situation of their members. Besides the spread of the financial risk of illness and better access to health care, indirect effects of health insurance can result in better health outcomes and an increase in labor productivity.

It has been shown that Community Based Health Fund (CBHF) schemes have brought about an extensive and positive impact on the overall quality of life of scheme members. Improvements to quality of life occur in terms of members' health status and their ability to manage the cost of illness (Yann et al, 2005 and GST 2005).

.In fact, when a Community Health Insurance scheme (CHIs) proposes a health insurance contribution based on average health care costs of the target population, a number of households, usually those who are not prone to disease may not be interested in signing up, judging that the contribution proposed is exaggerated in view of low expected health care costs they incurred before. The less healthy, however, may be interested in signing up for the opposite reason. This is referred to as adverse selection. In order to overcome this problem, most schemes introduced exemption policy to cater for the indigenes (WHO, 2003).

The choice of a health insurance plan is driven by two sets of determinants, which are closely related, but are analytically separable- the characteristics of the plan itself, and the personal, household and community characteristics of the individual making the choice. Characteristics of plans include type of medical services offered, the degree of freedom to

choose providers, and the extent of compensation given. Others are quality of care given by the chosen provider and perceived credibility of the insurer. Personal characteristics underlying the decision to opt for insurance include risk aversion, price sensitivity of medical care and health status of the individual. (Osei, 2003)

2.2 FACTORS AFFECTING ENROLLMENT IN HEALTH INSURANCE IN DEVELOPING COUNTRIES.

WHO review of 82 non-profit health insurance schemes operating in developing countries revealed that generally health insurance schemes in developing countries are characterised by low participation, with very few of these schemes covering large populations. Again, it was found that adverse selection was affecting more the schemes that insured against high-cost low frequency events than schemes that covered low-cost high-frequency events. One of the main reasons was that many people tended to sign up with the CHIs, at the moment of illness. It follows that the members with high risks tended to be over-represented in the CHIs. (WHO, 2003)

Studies show that registration over time may increase or decrease. There is evidence that registration rate may be reduced as occurred in the Maliando Mutual Health Organization in Guinea-Conakry where registration rate dropped from 8% to 6% of the target population. There are instances too where the membership rates might be low in the beginning, but might increase as CHIs improve management and design. A study on the Bwamanda Hospital Insurance Scheme in the D.R. Congo shows that when the scheme was established in 1986, 32,600 people (28%) of the district population joined within

four weeks. Over the years, membership climbed to 66% in 1993 and then stabilised at 61% in 1997 (WHO, 2003)

Various reasons have been given as to why there is the low participation in health insurance schemes in developing countries. These factors are broadly classified as the characteristics of household; community and institutional factors (Harding, 1996).

HOUSEHOLD CHARACTERISTICS

Age and Gender

Females are unwilling to pay than males to benefit from health insurance schemes (Tenkorang, 2001). In most African countries, females usually have less control over and the decision power in the allocation of household resources, which may explain their lower stated willingness to pay values. Similarly, elderly patients were unwilling to pay than younger patients for the various benefits offered by the insurance scheme. It has been shown that younger household heads are more open to innovation and therefore likely to participate in the scheme (Tenkorang, 2001 and Joachim et al, 2003). However, a working paper on health insurance in Senegal shows that the probability for women to be insured is higher than for male in the household. This is reasonable because women of child-bearing age do need hospital care more often than other household members (Jütting, 2003)

Size of household

A study in Rwanda found that households with more than five members had a greater probability to participate in the CHIs than others. This is because premiums were kept flat, irrespective of household size up to seven members; the average contribution per household member was therefore less than for smaller families, inducing greater participation. However in Burundi, registration by a household entitles the members (restricted to two adults and all children under 18 years old) to free health care at all public health facilities. Therefore it was realised that larger households (with more children below the ages of 18yrs) were registering more than small households. (WHO, 2003)

Level of education

People with high level of education tend to join the scheme more than those with low education level (Tenkorang, 2001)

Affordability of premium

Affordability of premiums or contributions is often mentioned as one of the main determinants of membership in most schemes in developing countries (WHO, 2003).

If people are struggling for survival every day, they are unwilling to pay insurance premiums in advance in order to use services at a later point in time. The positive impact of health insurance would be doubted if a large proportion of the population cannot even

afford the premium. In a study in Burundi, it was found that approximately 27% of households gave non-affordability of the premium as one of the main reasons for non-membership (Doris et al, 2000 and Tenkorang, 2001). In Senegal, as much as 50% of the premium of some community members has to be paid for before they could participate (Jutting, 2003 and Lynne et al, 2003).

Income

Widespread absolute poverty among potential members can be a serious obstacle to the participation and hence implementation of the health insurance scheme. In a study in Senegal this argument was frequently put forward from non-members of the scheme. The reason given was that people are struggling for their daily needs; hence they are unwilling to pay insurance premiums in advance in order to use services at a later point in time (Jutting, 2003).

A similar reason was also given in the Rwanda Study Project where it was reported that low-income households are initially reluctant to join insurance schemes because they do not readily accept to "pay" for services they may or may not use. Belonging to the lower and the upper income level decreased and increased registration, respectively. When households classified themselves as poor or non-poor, it appeared that the self-reported poor had a lower probability to join CHIs than the higher income households. In the Thies study, it was realized that one way to increase insurance membership for poor households is to introduce exemptions. (WHO, 2003)

In a research carried out in Cameroon, similar observation was made. It was observed that direct money-earners (independents, employees, workers, etc.) – again those who usually control household income – had a tendency to declare higher willingness to participate values compared to non-direct money-earners (housewives, students, unemployed, etc.) (Joachim et al, 2003). In Senegal and Thailand, household income was a significant determinant of membership of a prepayment scheme (Parker et al, 2002).

Level of knowledge

For a health insurance scheme to be successful, public information work is extremely important. People have to be convinced that sharing health risks by registering with the scheme is more advantageous than individual saving. Members' knowledge of what health insurance scheme does and how it works is important for continuing participation of the scheme. For instance it was found that in Thies (Senegal), 70% of those interviewed had become members because they had received clear and persuasive information about the advantages. (Lynne et al, 2004)

Family health status

In Senegal it was revealed that families with high illness rate or more prone to be ill and therefore frequenting the health facilities have a greater tendency to participate or to be members of the health insurance scheme (Jutting, 2003).

Distance from health facilities

Both the office of the health insurance scheme and the providers of health services should be located in the relative vicinity of the members. However, if people have to travel for a long time or pay for expensive transport in order to reach the health center or the offices of the health insurance scheme, they are hardly likely to become members.

Membership rates are often determined by the distance of the household's home from the nearest health facility where (insured) services are provided. For instance, in the GK scheme, membership with the scheme appeared to be related to distance: up to 90% of the target population from nearby villages subscribed, whereas only 35% did so for the target population in the distant villages. In the Rwandan Project Study, it was also found that households who lived less than 30 minutes walk from the participating health facility had a much larger probability to registration in the CHIs than those who lived farther away.

In Bwamanda Insurance Scheme in D.R Congo, the premium itself was not a problem. Its only became unaffordable to some household when costs of the travel and premium were combined. During the period 1987 to 1995, the percentage of the target population registered ranged from 41% to 66%, with registration being lower for those living more than 25km from the hospital (WHO, 2003).

Timing of collecting

The timing of collecting the contributions is also a factor accounting for membership. From the WHO Study, it was observed that schemes in urban areas were more inclined to establish monthly or quarterly contributions so as to match the income patterns of urban

informal sector workers. Annual contributions seem to be prevalent among schemes in rural areas. However, in some schemes, payment schedules were held flexible, with monthly, quarterly or semi-annual payments. Flexibility was introduced as it was judged that few households were able to pre-pay for a one year or even six-month membership. Other schemes link the time of payment of the contribution with a suitable event in the community. (WHO, 2003 and Jutting, 2003)

HEALTH INSTITUTIONAL CHARACTERISTICS.

Quality of care

The quality of care offered by CHI is another factor to be considered. The latter was highlighted in an evaluation of the Maliando scheme in Guinea-Conakry. In the 12 focus group discussions held, it became clear that quality of care is paramount (as it was mentioned 383 times by participants as an important factor in the population's attitude towards the scheme). Most of the time, participants referred to rapid recovery, good drugs and a nice welcome at the participating health facilities as the most important features of quality. When membership was discussed specifically, lack of quality of care was cited as the most important cause of non-participation .Several non members in the above mentioned focus group discussions said they would prefer not to register but rather seek quality care elsewhere (and paying more) in order to receive better quality care (Carrin et al, 2001).

In another study involving CHI scheme in Hanang District, Tanzania, it was assessed via focus group discussions that the issue of quality was important. One of the reasons for

non-membership invoked was the fact that members did not have access to better quality care (Carrin et al, 2001).

Again, if people feel that they will get "value for money" at the hospitals or health posts, they would be willing to pay premiums. Even the poor would be willing to participate when quality of services are provided. Most often quality of care is measured in terms of availability of drugs and other supplies, good personal relationship, clean hospitals, or good security (Doris et al, 2000; Jutting, 2003 and Tenkorang, 2001).

In a study in Senegal, this is what some members had to say; ''we would like the nurse to be much more attentive to us because, if things continue as it has been, we will not see the usefulness of being part of a MHO. We would really like things to be easier for us so that people would want to join, but at the moment, they treat non-members before they turn their attention on us, and this is not normal." Another concern that was raised was the issue of drug availability: "Drugs were not in stock and our members were going to the health post without receiving drugs. This would not influence others to join'' (Lynne et al, 2004 and Tenkorang, 2001).

Wait and see attitude

Many individuals were skeptical and waited to see whether the institution itself was trustworthy and be successful. "I am a member of the MHO. I was informed since the beginning about the creation of the MHO, but I did not join earlier because I did not think it would last." A new member said. Another had this to say "I am someone who is very

cautious. There are so many associations in Senegal that one has a hard time keeping track. So I observed for a while and I realized that it was advantageous, and so I joined." (Lynne et al, 2004)

COMMUNITY CHARACTERISTICS

Community Participation

Another basic prerequisite for the success of a micro-health insurance scheme is that the local population should participate from the very start. The degree of community participation can vary widely and is usually greater if funds are owned and managed by the members themselves than if schemes are run by health facilities. If members identify themselves with the scheme because they control the funds and have decision-making power, they will tend less to unnecessary use the health care services ("moral hazard").

Furthermore, strong community participation can facilitate health education and sensitisation of members in order to promote healthy behaviour and the use of preventive services, as the members share a common interest in keeping the costs of health care low. (Doris et al, 2000 and Parker et al, 2003).

In Senegal, the members in the study were happy that they participated in electing the management members. Nobody complained that the management members were imposed on them. "Community participation is the best guarantee of regular payment of premiums and acceptance of policy changes in the MHO'' stated a member. (Lynne et al, 2003 and Atim et al, 2000)

Studies of a health insurance scheme in Guinea-Bissau (Abota Village Insurance Scheme) revealed that since the community members participated in determining the premium, they were even willing to pay for an increment that was proposed (Tenkorang, 2001).

Community's perception

A widespread misconception in the community about the scheme has affected the level of registration (Atim et al 2000).

Previous association with financial enterprise

Willingness to participate in an MHO is also determined by knowledge and experience with other MHOs or financial collaborative enterprises. If these experiences were successful, the community might be ready to take on another enterprise. If it was negative, they would be more likely to be suspicious and cautious. (Lynne et al, 2004). This was confirmed in a study in Senegal where those household heads who already have an experience of the costs and benefits of participation in local organizations were readily willing to register with the scheme (Jutting, 2003). Previous association with a financial association introduces some degree of solidarity between the members (Joachim et al, 2003).

Trust in the scheme and the management

It has been found that trust among the members of a scheme increased registration (Preker et al, 2002). Trust among the insured themselves may be equally important. An important element is the availability of information among potential members of a CHIS. Flows of information can in fact be considered as a form of social capital. Trust was also considered a factor in the development of health insurance among informal sector workers in Dar Es Salaam, Tanzania. Informal sector workers constituted their own associations, which proved to constitute a good basis for building trust among members. Subsequently, health insurance was easier to develop. (WHO, 2003)

2.3 FACTORS AFFECTING PARTICIPATION IN HEALTH INSURANCE SCHEMES IN GHANA

Two forms of schemes are quite distinctive. These are private insurance companies in the cities and other bigger towns and hospital-based schemes in the districts. The private insurance companies are few and are patronized by employers and few individuals. With the support of development partners various forms of formal health insurance are growing in the districts. Examples include schemes like the Dangme West District Health Insurance Scheme and Ejisu/Juaben District Health Insurance Scheme (Atim et al, 2000).

HOUSEHOLD HEAD CHARACTERISTICS.

Age and Gender.

In a study to evaluate some health insurance schemes in some regions in Ghana, more males (68%) registered with the schemes as compared with 32% of female. Also household heads within the age group of 35-49 participated more (Agyepong et al, 2006).

Affordability of premium

Affordability of premiums or contributions was cited as one of the main determinants of membership especially when the premium is flat across board. The WHO had discussed the issue of affordability in a number of studies. For instance in the Nkoranza scheme in Ghana, the estimated cost of premium varied from 5 to 10% of annual household budgets. It was recognized that such premium was a financial obstacle to membership especially the poor. However, in some other regions of Ghana this might be expected to be much higher (in the Northern part of Ghana, for example, around 70% of the population is estimated to be living in extreme poverty) (Atim et al, 2000 and Osei, 2003).

A Ghana Social Trust survey in Nkoranza and the Dangme West District Health Insurance schemes suggested that around 77 per cent of non-members said would consider joining if the premium were reduced (GST, 2005).

In Dangme West health insurance scheme, some household heads cited financial barrier as reason for not registering whilst some members did not renew their registration because they could not afford it (Agyepong et al 2006). In another study, non insured

members in health insurance schemes in some regions in Ghana said they don't have disposal income at the time of registration (Aikins 2003).

Household size

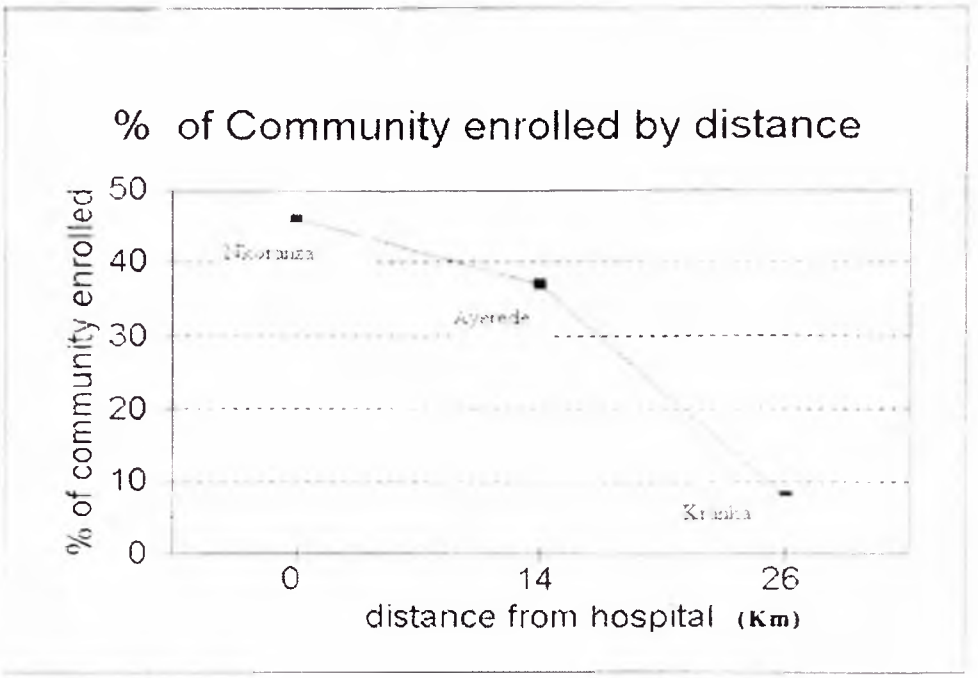
In a study done in Dangme West, 3% of the household heads involved in the study did not register because their household is large and since most of them were above 18 years and unemployed, the total premium to be paid by the household head is relatively large (Agyepong et al, 2006).

Household head occupation.

In the Dangme West study, it was realized that the household heads who have never registered with the scheme, 35% were farmers whilst for those who have enrolled in the scheme, only 24% were farmers. On the other hand, there were more civil servants in the insured group (16%) than the never insured group (3%) but the distribution of the other occupations like traders, artisans and drivers and casually employed between the two groups were similar (Agyepong et al, 2006). Farmers, especially those in the coastal and the northern savanna in the country have been indicated to be among the poorest in the country (GSS, 2000).

Distance from a health facility.

Fig 2 Percentage of Community registered by Distance



The figure above shows the relationship between distance and level of registration of communities within the catchments area in Nkoranza (Tenkorang, 2001).

A study in Dangme West District revealed that those who live further away from primary health facilities register less due to geographical inaccessibility (Agyepong et al, 2006).

Access to health care

The findings from review of Nkoranta health insurance scheme suggested that the scheme had removed the financial barrier to admission for people in the district (Arhin, 2001).

Also the Dangme West study shows that those who have geographic access to primary health care clinics (about 15-30 min walk) increase their probability of enrolling in health insurance (Agyepong et al, 2006).

Knowledge

In the Nkoranza scheme some of those who have not registered cited a lack of knowledge or understanding of how health insurance works as the reason why they have not registered (Atim, 2001). In Dangme West study, 14% of the non members of the scheme gave their reason as never heard about the scheme whilst 32% have heard it but do not understand (Agypong et al, 2006).

Another study conducted in Ghana on some insurance schemes revealed that, in Dangme West, since the equipment used in educating the people broke down and because there were no other communication mediums like local FM radio, the level of registration reduced drastically (Osei, 2003). Another research shows that nearly all the insured people know the full name of their schemes and its benefits (Akins, 2003).

Perception

In Dangme West health insurance scheme, some members failed to renew their registration because they perceive that cheaper and fewer drugs were being prescribed for insured members as compared to non-insured members (Agyepong et al, 2006). In another study on health insurances across Ghana, some non insured members perceived the scheme as institution belonging to Christians (Ashanti, Eastern and Brong Ahafo) but

in Northern and Greater Accra regions the perception was that health insurance would provide poor quality services. Again some people perceived that the scheme has National political identification (Akins, 2003).

COMMUNITY FACTORS

Community participation

In the Nkoranza health insurance scheme, the community persistently clamoured for the scheme to become a community owned one, i.e., for community to participate in management, control of fund and decision-making. Some non-members had wanted the management to consult them so that they would feel as being part. This is one of the reasons given by the non-members of the Nkoranza scheme when it was evaluated (Atim et al, 2000).

Community perception

The evaluation of the Nkoranza health insurance scheme shows the popular perceptions were that the scheme belongs to the hospital and the Catholic Diocese. This led other people who are not Catholic not registering with the scheme (Atim et al, 2000).

INSTITUTIONAL FACTORS.

Attitude of health workers

One factor that the people of Nkoranza complained about in the study of evaluation of the

Quality of care

The community members (Nkoranza) wanted the inclusion of maternity care as part of the benefit and this was cited as the reason for non-registration. They were even willing to pay higher premium and wait longer at the health facility for maternal care to be given before receiving theirs (Atim et al, 2000). Again in the Dangme West Health Insurance scheme, the reason given by some members for not renewing their registration was problem of quality of care. Some of the issues the members complained about were waiting for a long time before being treated, fewer and poor quality of drugs and poor treatment from the health personnel (Agyepong et al, 2006).

In reviewing the achievement and the challenges on the emerging community health insurance scheme in Ghana, it was revealed that the scheme members wanted improvement in the drug supply so that they would obtain all the drugs at the health facility (Aikins, 2003)

CHAPTER THREE

3.0 METHODS.

3.1 STUDY DESIGN.

The study design is a case-control study.

3.2.0 THE STUDY AREA

This information was obtained from District Health Management Team (DHMT) annual report 2005.

3.2.1 Socio-demographic profile of the District.

The Kassena- Nankana District (KND) is one of the six districts in the Upper East Region (refer to table 1 and fig 3). It lies within the Guinea Savannah woodland of Ghana. It is bordered by Sissala district on the west, Bongo on the east, Bolga district on the northeast, Burkina Faso and Northern region on the north and south respectively. The population of the district is mainly rural, apart from those living in Central Navrongo. The nature of the settlements in Kassena-Nankana is dispersed with close knit extended families living in the same compounds with an average household size of about ten (10) people. This often makes health service delivery very difficult.

The main occupation of the people is farming with a few farmers being commercial farmers who benefit from the ICOUR irrigation project. The rest are subsistence farmers. Other occupations include petty trading and animal husbandry. The district is divided into six sub district – Central, North, South, East, West and North East. The estimated

population of the district from the 2000 population and housing censuses is 157, 896 living in 294 communities.

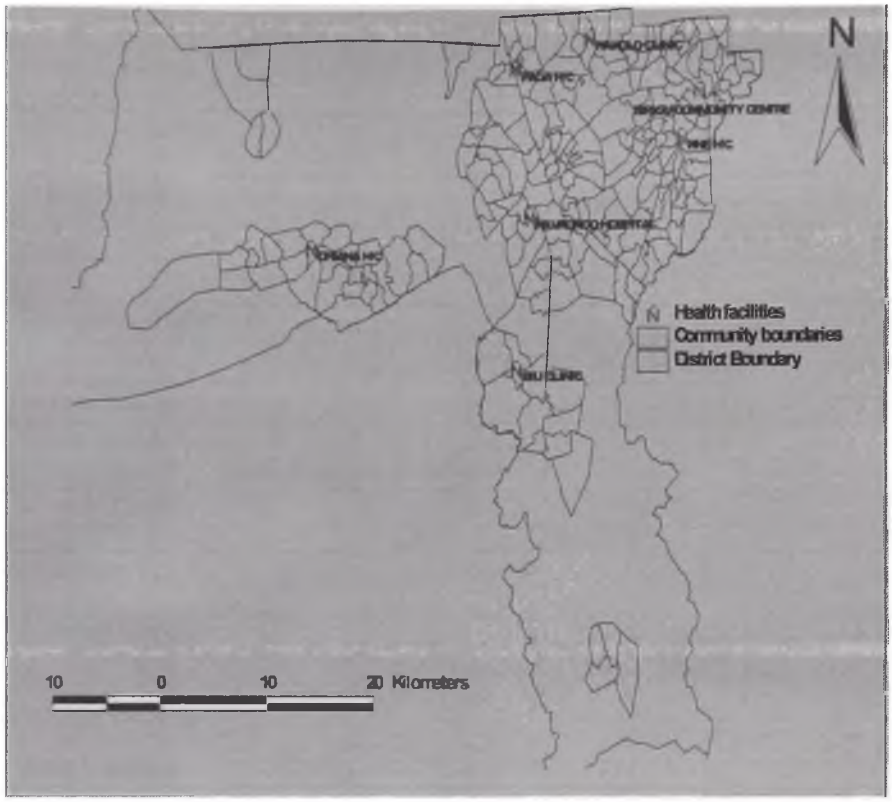
TABLE 1. The total population and some target populations in KND for the year 2005

NO	SUB-DISTRICT	TOTAL POPULATION	CHN 0-11 MONTHS	CHN 0-4 YEARS	WOMEN 15-49 YRS
1	KN CENTRAL	45,627	1,095	6,662	10,950
2	KN EAST	22,763	546	3,323	5,463
3	KN NORTH	25,378	610	3,705	6,091
4	KN NORTH EAST	15,382	369	2,246	3,692
5	KN SOUTH	13,630	327	1,990	3,271
6	KN WEST	35,116	843	5,127	8,428
	TOTAL	**157,896**	**3,790**	**23,053**	**37,895**

TABLE 2. Top five (5) causes of mortality in the district

RANK	DISEASE CONDITIONS	PERCENT OF THE TOTAL
1	Malaria	55.2
2	Pneumonia	14.4
3	Anaemia	13.6
4	Meningitis	8.8
5	Tuberculosis	8.0

Fig 3: A Map of KND showing the distribution of Health Facilities within the district



3.2.2 Health Infrastructure and human resources

The district has the following health infrastructures:

District hospital	1
Health centers	8
CHPS centers (in operation)	17

TABLE 3. Showing the profile of human resources in the district:

PROFESSION	NUMBER
Medical officers	4
Medical assistants	5
Public Health specialist	1
Pharmacist	1
Dispensing Technician	5
Dispensing Assistant	5
Public Health Nurses	4
Disease Control Officer	3
Midwives	16
Enrolled Nurses	58

3.3.0 Variable

3.3.1 Dependent variable

Registration in the National Health Insurance Scheme.

3.3.2 Independent variables

Demographic variables (age, gender and household size)

Socio-economic (education, occupation, Income and affordability)

Socio-cultural (Perception and Health seeking behaviour)

The cumulative number of times members of the household have visited a health facility within the last six months

How much was paid averagely in each visit

Distance from the nearest health facility

Knowledge about the scheme

Community participation

Trust in the scheme and its managers

Quality of care in the form of a) attitude of the health workers, b) availability of drugs, c) waiting time and d) cleanliness of the facility.

3.4.0 SAMPLING

3.4.1 Study population.

Inclusion criteria: the study population includes all household heads aged between 18 years and 69 years staying in KND.

Exclusion criteria: are children below 18yrs and aged 70 years and above.

Cases: The cases are all household heads aged between 18 years and 69 years who are permanent residents of KND and have not paid or registered with the NHIS.

Controls: All household heads aged between 18 years and 69 years who permanently reside in KND and have registered with the NHIS.

3.4.2 Sample size

EPI info version 3.3.2 was used to calculate the sample size. A total sample size of 306 was arrived at and approximated to 320 by a factor of 4.5% to account for incompleteness of questionnaire or non-response. The ratio of cases to controls was 1:1 which means 160 cases and 160 controls were selected across the whole Kassena-Nankana District. The closest neighbour who is of the same sex as the case was selected as the control of that case.

The sample size was arrived at based on the following parameters:

Confidence interval…95%

Power ….80%

Odds ratio …2

Prevalence of community participation in establishing the NHIS……..…30%.

3.4.3 SAMPLING PROCEDURE

Random sampling technique was used to select the cases and then the nearest neighbour (of the same sex) was chosen as the control for that case. Kassena-Nankana District (KND) has a good data base on every household in the district because of the presence of the Navrongo Health Research Centre. A list of all household heads who have fully registered with the NHIS in the KND as at the time of the research was obtained from the District Mutual Health Insurance (DMHI) office in KND.

By means of SPSS version 12, the DMHI list was extracted from the entire district data base of household heads which was also obtained from Navrongo Health Research Centre (NHRC). The remaining district data then constituted the list of all household heads who have not registered with the scheme. The 160 cases were then randomly selected (computer generated) from the remaining list of household heads (as explained above) using SPSS version 12. Then a control, of the same sex, who was the nearest neighbour of the case, was selected from the health insurance list by looking through the DMHI list to select the registrant with the closest compound number to the case. Any case that was selected but had no control was excluded and replaced. Permission was normally sought from the respondents before the questionnaire was administered.

3.5.0 DATA COLLECTION TECHNIQUE AND TOOLS.

Quantitative method was used in the data collection. The technique employed was questionnaire interviewing using structured questionnaire. The questionnaire was structured in such a way that it sought more information about the characteristics of the household head, the community and the health institutions providing the service. Where the household head was not available, the spouse or any dependant who could provide this information was interviewed.

3.5.1 Ethical Consideration.

Ethical consent (both written and verbal) was obtained from Ministry of Health, District Assembly, District Health Management Team (DHMT), NHIS managers, Navrongo

Health Research Centre (NHRC), Community leaders, Assemblymen, and the respondents. Research assistants were informed and trained on the need to keep the information provided confident. Because of this, respondent name was not included on the questionnaire.

3.5.2 Training of Research assistants

Six qualified Research assistants with experienced were recruited with the aid of Navrongo Health Research Centre. They were then trained for three days to actually understand the questionnaire and were made to translate the questionnaire to a neutral person in their native language. This person then translated the questionnaire to English in our presence to check how he understood it.

3.5.3 Pre-testing and review of tools.

The questionnaire was pre-tested by the Research assistants and the researcher at Sumbrungu in the Bolgatanga district, on both registrants and non-registrants of the scheme. Then the final changes in the questionnaire were made before the actual data collection was started.

The tool used in the collection of the data was structured questionnaire which was centred on the selected variables. Other sources of information used were household data base obtained from Navrongo Health Research Center and DMHIS register (obtained from the health insurance office in the district) of the household heads who have fully paid their premium

3.5.4 Data collection.

The actual data collection was done by administering the structured questionnaire to the cases and controls selected as explained above. This was done across the whole district using the compound name and number (residential address) to trace the selected cases and controls in the various communities.

3.5.5 Quality Control.

Six qualified and experienced research assistants were employed to collect the data. They were trained for three days to understand the questionnaire. Then the questionnaire was translated to neutral person who then translated the questionnaire back to English in our (the research assistants and the researcher) presence to check how he understood it.

The Research assistants were also made to understand what the study was about and the need to maintain the confidentiality of the respondents. Anybody who did not want to participate was excluded and replaced. Two of the Research assistants always had a duty of reviewing the completed questionnaire on the field and any incompleteness or wrong response corrected on the field before they return home. Some of the answered questionnaires were randomly selected and the respondents interviewed again to check for internal consistence in the information provided.

Completed questionnaires were rechecked each day by the researcher to make sure that each was completely answered and then entered twice using Epi Info version 3.3.2 to detect any mistake that might had occurred in the first entry. The activities of the research

assistants were supervised by the researcher.

3.6.0 DATA PROCESSING AND ANALYSIS

3.6.1 Data Processing

Data entry was done using Epi Info version 3.3.2 and was done twice to detect any error in the first entry. The data was then transported to Excel soft ware for editing.

3.6.2 Data Analysis

Frequency tables were prepared using Epi Info version 3.3.2 and some of the variables were found to be statistical significant. Then bivariate analyses were done using Epi Info to determine which of the category or categories under the variable was or were statistically important. In the bivariate logistic regression analysis carried out, the outcome was whether the household head has registered with the scheme or not and then the exposure was the variable of interest.

Multivariate logistic regression analysis was also performed, still using Epi Info version3.3.2, to determine the actual factors that were significant. In this case, all the variables were analysed together and then the ones that were statistically significant taken as the factors that contribute to the participation in the NHIS within the district.

3.6.3 Determination of the socio-economic status of the household heads

Numbers were assigned to the household belongings based on the economic value of the item. For instance, for primary source of cooking fuel used by the household, since the economic value of gas/electricity is higher than charcoal also which is higher than wood, the values assigned were 3 for gas/ electricity, 2 for charcoal and 1 for wood. Again for the means of transportation (only the ones in working condition were considered), the economic value of tractor was taken as the highest, followed by car, motorbike and bicycle in that order. Therefore the values assigned were 4 for tractor, 3 for car, 2 for motorbike and 1 for bicycle.

In situation where the household possesses more than one of the item in question, the number of the item possessed was multiplied by the value assigned and the product used. For example if a household possesses three motorbikes and since the valued motorbike was 2, the household accumulated value in terms of motorbike would be 6 instead of the value 2 assigned to one motorbike (i.e. three motorbikes multiplied by the value 2 assigned).

Then all the items that a household possesses were used to determine the socio-economic status of that household by summing all the values assigned to the various items. The household with the highest and the lowest figures were classified as the household with the highest and lowest socio-economic status respectively.

3.7 LIMITATION OF THE STUDY

Since the information in the data was provided by the household heads, the accuracy of the information would determine the accuracy of the data.

Most of the household heads who are farmers said they did not have monthly income which may affect figure given as the total monthly income of the household.

CHAPTER FOUR

4.0 RESULTS

4.1.0 HOUSEHOLD HEADS CHARACTERISTICS

4.1.1Demographic and socio-economic characteristics

Even though the sample size calculated was 320, at the end of the data collection period, 321 respondents (163 cases and 158 controls) had been successfully interviewed. This study was case-control with ratio of 1:1.

With reference to table 4.1, there was no statistical difference in the age groups of the cases (insured) and the controls (insured) with p-value =0.508. The age range for the cases was 20-69 years with mean, mode and median ages being 40 yrs, 35 yrs, and 38 yrs respectively. On the other hand the age range for the controls was 20-69 yrs and 43 yrs, 40 yrs and 45 yrs being the mean age, median age and the modal age respectively. The modal age group for both the cases and controls was 30-39 years.

There was no statistical difference in the marital status of the cases and controls. Thirty-one (49.2%) of those who have not married and 132 (51.2%) of those who have married have not registered with the scheme (OR = 1.08, p-value = 0.781).

Most controls (52.1%) had 3-5 dependants as against 47.9% who were cases. The same number of cases and controls had six and more dependants. The difference was also statistically not significant.

Table 4.1: Demographic and socio-economic characteristics of the household heads

Characteristics	Cases n=163 (%)	Controls n=158 (%)	$\chi 2$	P-value
Age (Years)				
Mean	40	43		
Mode	35	40		
Median	38	45		
Age Group (Years)			3.30	0.508
20-29	39 (57.4)	20 (42.4)		
30-39	51 (53.1)	45 (46.9)		
40-49	37 (50.0)	37 (50.0)		
50-59	21 (44.7)	26 (55.3)		
60-69	15 (41.7)	21 (58.3)		
Number of Dependants.			2.55	0.280
0-2	37 (59.7)	25 (40.3)		
3-5	78 (47.9)	85 (52.1)		
6 and above	48 (50.0)	48 (50.0)		
Number of Dept <18yrs			7.36	0.061
0-2	79 (54.1)	67 (45.9)		
3 or more	84 (48.0)	91 (52.0)		
Occupation				
Trader	46 (46.5)	53 (53.5)		
Civil Servants	1 (3.4)	28 (96.6)	53.09	**<0.001**
Farmers	47 (73.4)	17 (26.6)		
Unemployed	46 (68.7)	21 (31.3)		
Others	23 (37.1)	39 (62.9)		
Education				
No Formal	74 (56.5)	57 (43.5)		
Primary	32 (58.2)	23 (41.8)		
JSS	14 (63.6)	8 (36.4)	24.75	**<0.001**
Middle	27 (50.0)	27 (50.0)		
SSS	13 (44.8)	16 (55.2)		
Tertiary	3 (10.0)	27 (90.0)		
Total Income			13.57	**<0.001**
0 –199000	36 (73.5)	13 (26.5)		
200000-399000	31 (62.0)	19 (38.0)		
400000-599000	19 (45.2)	23 (54.8)		
600000-999000	18 (45.0)	22 (55.0)		
1000000 or more	21 (33.9)	41 (66.1)		

HH Monthly income			24.99	**<0.001**
0 – 99000	69 (63.3)	40 (36.7)		
100000-199000	24 (61.5)	15 (38.5)		
200000-299000	24 (51.1)	23 (48.9)		
300000-399000	16 (47.1)	18 (52.9)		
400000-499000	10 (45.5)	12 (54.5)		
500000 and above	19 (27.5)	50 (72.5)		
Socio-Economic Status				
First Quintile	39 (59.1)	27 (40.9)		
Second Quintile	36 (58.1)	26 (41.9)	13.77	**0.008**
Third Quintile	29 (46.0)	34 (54.0)		
Forth Quintile	36 (59.0)	25 (41.0)		
Fifth Quintile	23 (33.3)	46 (66.7)		

There was no statistical difference between the number of dependants in school and above 70 years. Again the same number (127) of cases and controls responded that they did not have any dependant 70 years or above whilst the rest of the cases and the controls indicated that they had one dependant each with age 70 years or above.

Surprisingly, 27 (65.9%) of those with no dependants in school have not registered with the scheme as against 14 (34.1%) who have registered. Of the respondents with one or two dependants in school, 80 (54.1%) have not registered with the scheme as compared to 68 (45.9%) who have registered with the scheme. Again of those with six or more dependants in school, only 11 (33.3%) were cases whilst 22 (66.6%) were controls. There was a statistical difference in the number of cases and controls who have dependants in school. ($\chi 2$ =9.50and p-value= 0.023).

From table 4.1, most of the household heads had no formal education, Primary, JSS or Middle school education levels with only a few having higher education. There was a statistical difference in the education levels of the cases and the controls (χ^2 =24.75 and p-value= <0.001). Most (56.5%) of those without any formal education have not registered with the scheme whilst only 27.1% of those with education level of SSS or more have not registered.

There was again statistical difference in the occupation of the respondents. Twenty eight (96.6%) of the civil servants and 53 (53.5%) of the traders were controls while 47 (73.4%) of the farmers and 46 (68.7%) of the unemployed were cases. (χ^2=53.09 and P-value=<0.001) (Table 4.1).

Still with reference to table 4.1, as expected, 39 (59.1%) of those in the first quintile (lowest socio-economic income group) have not yet enrolled in the scheme whilst 46 (66.7%) of those in the fifth quintile (highest socio-economic income group) have registered with the scheme. Sixty seven (67.7%) of the study participants whose total monthly income was less than ¢400,000.00 were cases but of those respondents with total monthly income of ¢600,000.00 or more, 63 (61%) of them were controls. There was statistical difference in the income levels of the study participants with Chi-square of 13.57 and p-value of <0.001.

One interesting finding was that the difference between those who receive extra money

from relatives who live outside the household and those who do not receive any financial support from relatives outside the household was not statistically significant with regards to enrolment in the scheme. (Odds Ratio=0.929, 95% CI=0.57-1.50, p-value=0.763). However, households that have other members within the household working (apart from the couple or the parent) as against those who do have any other member of the household working contribute to the household's registration with the scheme and this was statistically significant. (Odds Ratio=0.42, 95% CI= 0.21-0.85 and p-value=0.013).

Those who had been a member of a financial organization like Susu compared to those who have not a member of any association was found not to influence registration with the NHIS but for those who have members of financial organization before, past experience with the financial organization (whether successful or unsuccessful) was statistically significant to participation of the scheme. (Odds Ratio =4.60, 95% CI=0.93-22.72, p-value=0.044).

4.1.2 Household health status

From table 4.2, more than 50.0% of both the cases and controls have a member from their household visiting a health facility at least once within the past six months. As expected, of those who responded that they had never been to any health facility for the past six months 56 (68.3%) were cases whilst 31 (67.4%) of those who have been to the health facility at least thrice during the past six months were controls.

The difference between those with chronic disease and those without any chronic disease

was statistically significant to the participation of the scheme. Out of the 43 respondents who had chronic disease, 33 (76.7%) of them have registered as against 10 (23.3%) who have not registered with the scheme (χ^2 =0.25, %95 CI=0.12-0.52, p-value=<0.001).

Table 4.2: Distribution of Health status of respondents.

Characteristics	**Cases n=163 (%)**	**Controls n=158 (%)**	**χ2/ OR**	**95% CI**	**P-value**
Visit to HF within the past six months			0.38	0.22-0.64	**<0.001**
Yes	107 (44.8)	132 (55.2)			
No	56 (68.3)	26 (31.7)			
No. of HH members Who visited HF			16.87		**<0.001**
Nobody	56 (68.3)	26 (31.7)			
1-2	107 (44.8)	132 (55.2)			
3 or more	15 (32.6)	31 (67.4)			
Chronic Disease			0.25		**<0.001**
Yes	10 (23.3)	33 (76.7)		0.12-0.52	
No	153 (55.0)	125 (45.0)			
Amt spent on health during the last visit to the HF or before joining the NHIS			21.23		**<0.001**
0-49000	81 (66.9)	40 (33.1)			
50000-99000	44 (44.4)	55 (55.6)			
100000 and above	38 (37.6)	63 (62.4)			

Since the controls were found at where the cases were staying, no statistical difference between the respondents with regards to access to health facility (OR=1.41, 95% CI=0.79-2.54 and p-value=0.245) and distance from their houses to the nearest health facility (HF) was found (χ^2 =2.94 and p-value=0.230).

Most of the study participants said they traveled to the health facility either by walking or by bicycle and hence felt that transportation to the health facility was not a problem. There was therefore no statistically difference in terms of transportation fare between the two groups. In terms of the average amount spent in each visit to the hospital or before joining the NHIS, of those who were spending an average of less than ¢50,000.00 per visit only 40 (33.1%) have registered whilst 63 (62.4%) of household heads who spent an average of ¢100,000.00 or more per visit have registered with the scheme whilst the rest have not registered with the scheme (table 4.2).

4.2.0 COMMUNITY FACTORS

4.2.1 Community's knowledge and perception of NHIS.

Study participants answered questions on the knowledge of NHIS, how they got to know it, what their perception about the premium was and how they would like to pay their contributions, the role they have played toward the establishment of NHIS in KND and their health seeking behavior.

The difference between knowledge of NHIS and the preference for either cash and carry or the NHIS was not statistically significant (OR=0.77, 95% CI=0.20-02.92 and p-value=0.70). Again the difference between the respondents who taught that the NHIS solves the problem of cash and carry is not statistically significant. On the issue of knowledge of NHIS, out of those who said it's about free medical care, 126 (51.0%) were controls whilst 121 (49.0%) were cases. Of the study participants who said it's to replace

the cash and carry, 11 (50.0%) were cases as against 11 (50.0%) that were controls. But those who actually said its about free medical care and that dependants aged below 18 years and 70 years and above are exempted from paying the premium, 16 (55.2%) of them were controls whilst 13 (44.8%) were cases (χ^2=2.81 and p-value=0.85).

Table 4.3: Community's knowledge and perception of NHIS.

Characteristic	**Cases n=163 (%)**	**Controls n=158 (%)**	**X2/ OR**	**95% CI**	**P-value**
Method of knowing NHIS			17.49		**0.002**
Radio/TV	83 (43.7)	107 (56.3)			
Durbar by NHIS	27 (54.0)	23 (46.0)			
Friends/Relatives	37 (61.7)	23 (38.3)			
Others	16 (76.2)	5 (23.8)			
Method of payment			106.52		**<0.001**
Pay Upfront	79 (37.6)	133 (62.4)			
Pay in Bit	80 (98.8)	1 (1.2)			
Exemption	3.0 (11.1)	24 (88.9)			
Ownership			26.01		**<0.001**
Government	95 (48.2)	102 (51.8)			
Registrants	3 (11.5)	23 (88.5)			
Other	65 (66.3)	33 (33.7)			
Community Participation					**<0.001**
No Role	121 (77.1)	36 (22.9)	86.35		
Encouraging others	40 (26.3)	112 (73.7)			
Others	2 (16.7)	10 (83.3)			
Trust in the NHIS				0.25-0.66	**<0.001**
Yes	93 (43.5)	121 (56.5)	0.41		
No	70 (65.4)	37 (34.6)			

Almost everybody interviewed except one case had heard about the NHIS (OR= 0.00 and p-value=0.32). Statistical difference existed between the means through which they got to know about the scheme. Referring to table 4.3, of the respondents who got to know about the NHIS through the radio or TV, 107 (56.3%) were controls and the rest were cases.

Sixteen (76.2%) of the people who got to know the scheme through other means such as at the health facility and the National News paper have not registered whilst the other 5 (23.8) have registered. A lot, 197 (61.4%), of the respondents believe that the scheme belongs to the government 95 (48.2%) of them were non-registrants. Surprisingly, only 26 (8.1%) of the study participants knew that the scheme is for the community members who have registered and 23 (88.5%) were registrants. The difference in the mode of knowing the scheme was statistically significant.

There was a difference in the answer to the question of what they taught about the premium but this was statistically insignificant. However there was statistical difference on how they would like to pay the premium. Of those who responded that the premium was just right, 150 (50.8%) of them were controls and the other 145 (49.2%) were cases (OR=0.43, 95% CI=0.18-1.02 and p-value=0.050). The preferred method of payment by those who have registered with the scheme was payment upfront. Of those who said they prefer this method of payment 133 (62.4%) were registrants of the scheme as against 79 (37.6%) who have not registered with the scheme. On the hand, of those who want pay by installment, 80 (98.8) of them were cases compared to only 1 (1.2%) who was a control. The difference in the mode of payment was also statistically significant.

On the issue of the community's contribution toward the establishment of NHIS in the district, 121 (77.1%) of the study participants who said they have no role to play were non registrants whilst 112 (73.7%) of those who were encouraging people to register were registrants. The difference was statistically significant.

4.2.2 Community's health seeking behavior

From table 4.4, of those who indicated that their first point of call when ill was chemical or pharmacy shops, 106 (57.6%) had not registered with the scheme as against 78 (42.4%) who had already registered with the scheme. With reference to using the health facility as the first point call when ill, 75 (60.0%) of controls preferred this as compared to 50 (40.0%) who were cases. The rest of the cases and the controls said they sought health care at other places like the traditionalists or the herbalists. The difference between the various methods of seeking health care was statistically significant.

Table 4.4: Community's Health seeking behavior

Characteristic	Cases Number (%)	Controls Number (%)	X2	P-value
Health Seeking Behavior				
Chemical/Pharmacy shop	106 (57.6)	78 (42.4)		
Health Facility(HF)	50 (40.0)	75 (60.0)	9.52	**0.009**
Traditionalist/Herbal	7 (41.7)	5 (58.3)		
Total	**163**	**158**		

4.3 CHARACTERISTICS OF HEALTH FACILITY

The characteristics of the health facilities which influence registration in the scheme seem not to differ (statistically) among the two groups. The characteristics looked at are: the community's perception of quality of care received at the health facility in terms of the attitude of the health workers (HW), time they have to wait before receiving care, cleanliness of the place and whether the patient was able to obtain all his/her drugs at the health facility. (Table 4.5)

Table 4.5: Health Facility (HF) Characteristics

Characteristic	Cases n =163 (%)	Controls n =158 (%)	Odds Ratio	95% CI	P-value
Perception					
Yes	127 (52.9)	113 (47.1)	1.41	0.85-2.33	0.187
No	36 (44.4)	45 (55.6)			
Attitude of HW					
Yes	117 (53.4)	102 (46.6)	1.40	0.87-2.24	0.165
No	46 (44.4)	56 (55.6)			
All Drugs at HF					
Yes	44 (51.2)	42 (48.8)	1.02	0.62-1.67	0.934
No	119 (50.6)	116 (49.4)			
Cleanliness					
Yes	134 (51.0)	129 (49.0)	1.04	0.59-1.83	0.896
No	29 (50.0)	29 (50.0)			
Waiting Time					
Yes	55 (47.4)	61 (52.6)	1.23	0.78-1.95	0.364
No	108 (52.7)	97 (47.3)			

4.4 REASONS CITED FOR NOT REGISTERING WITH THE SCHEME.

All the 163 non-registrants (cases) were made to answer the question why they have not registered with scheme.

Table 4.6: Reasons for not registering with the NHIS

Reason For not Registering with the NHIS	Distribution (%)
Lack of Money	109 **(66.9)**
Family Size	20 **(12.2)**
Lack of Knowledge and understanding of the Scheme	19 **(11.7)**
Preparing to Register	5 **(3.1)**
Traveling a lot due to nature of work	4 **(2.5)**
Lack of trust in the scheme	2 **(1.2)**
Knowing somebody who did not get all his/her drugs at hospital	2 **(1.2)**
Because the husband did not register for me and the children	2 **(1.2)**
TOTAL	**163 (100.0)**

With reference to table 4.6, the main reasons cited for not registering by the cases were lack of money and hence non affordability of the scheme (66.9%), Family size (12.3%) and lack of understanding of the scheme (11.0%). Other minor reasons given were lack of trust in the scheme, preparing to register and knowing somebody who has registered but could not obtain all his/her drugs at the hospital or the accredited pharmacy shops.

Table 4.7a: Cross tabulation of Household Head's (HHH) Occupation and Education

Education / Occupation	No formal	Primary	JSS	Middle	SSS	Tertiary	**Total**
Civil Servant	3 (2.3)	0 (0.0)	0 (0.0)	2 (3.7)	4 (13.8)	20 (66.7)	**29**
Trader	48 (36.6)	22 (40.0)	12 (54.5)	13 (24.1)	4 (13.8)	0 (0.0)	**99**
Farmer	35 (26.7)	10 (18.2)	2 (9.1)	15 (27.8)	2 (6.9)	0 (0.0)	**64**
Unemployed	31 (23.7)	15 (27.3)	3 (13.6)	6 (11.1)	11 (37.9)	1 (3.3)	**67**
Others	14 (10.7)	8 (14.5)	5 (22.7)	18 (33.3)	8 (27.6)	9 (30.0)	**62**
Total	**131**	**55**	**22**	**54**	**29**	**30**	**321**

Table 4.7b: Cross tabulation of HHH occupation and distance to health facility.(n= 321)

Occupation / **Distance**	**Civil servants**	**Trader**	**Farmer**	**Unemployed**	**Others**
Near (1 km or less)	11 (7.9)	39 (28.1)	28 (20.1)	37 (26.6)	24 (17.3)
Far (2-4 km)	14 (10.1)	49 (35.3)	25 (18.0)	22(15.8)	10 (20.9)
Very Far (5 or more)	4 (9.30	11 (25.6)	11 (25.6)	8 (18.6)	9 (20.9)

4.5.0 LOGISTIC REGRESSION ANALYSIS ON THE FACTORS THAT WERE SIGNIFICANT IN TABLES 4.1-4.4

4.5.1 Bivariate logistic regression analysis

Table 4.8: Result of bivariate Analyses

Variables	Odds Ratio	95% CI	P-value
Occupation			
Trader	1.00		
Civil Servant	0.04	0.01-0.26	**0.001**
Farmer	2.77	1.59-4.82	**<0.001**
Unemployed	2.19	1.31-3.67	**0.003**
Others	0.59	0.35-0.99	**0.045**
Education			
No formal	1.00		
Primary	1.39	0.81-2.38	0.227
JSS	1.75	0.73-4.17	0.207
Middle	1.00	0.59-1.71	1.000
SSS	0.81	0.39-1.69	0.556
Tertiary	0.11	0.03-0.37	**<0.001**
Total HH Income			
0-199000	1.00		
200000-399000	1.63	0.92-2.89	0.093
400000-599000	0.83	0.45-1.52	0.538
600000-999000	0.82	0.44-1.53	0.528
1000000 or more	0.51	0.30-0.87	**0.013**
Other HH members' working			
Yes	0.48	0.25-0.93	**0.030**
No	1.00		
HH Monthly Income			
0-99000	1.73	1.17-2.55	**0.006**
100000-199000	1.60	0.84-3.05	0.153
200000-299000	1.00		
300000-499000	0.87	0.51-1.47	0.593
500000 or more	0.38	0.22-0.64	**<0.001**

Household Expenditure			
0-99000	3.29	1.41-7.66	**0.006**
100000-199000	2.19	1.21-3.95	**0.010**
200000-299000	1.00		
300000-399000	1.04	0.61-1.74	0.895
400000-499000	0.94	0.48-1.86	0.862
500000-599000	0.80	0.37-1.71	0.565
600000-799000	0.33	0.03-3.20	0.301
800000 or more	0.45	0.24-0.85	**0.014**
Socio-economic Status			
First Quintile	1.00		
Second Quintile	1.39	0.84-2.29	0.206
Third Quintile	0.85	0.52-1.40	0.529
Forth Quintile	1.44	0.87-2.40	0.161
Fifth Quintile	0.50	0.30-0.83	**0.007**
Number of HH members who visited Health Facilities			
Nobody	1.00		
1-2	0.91	0.69-1.21	0.517
3 or more	0.48	0.26-0.90	**0.021**
Chronic Disease			
Yes	0.30	0.15-0.61	**0.001**
No	1.00		
Amount spent health on the last visit or before joining the NHIS			
0-49000	2.03	1.39-2.96	**<0.001**
50000-99000	1.00		
100000 or more	0.60	0.40-0.90	**0.014**
Method of payment			
Upfront	1.00		
By installment	80.00	11.13-574.87	**<0.001**
Exemption	0.12	0.04-0.42	**0.001**
Ownership			
Government	1.00		
The Registrants	0.13	0.04-0.43	**0.001**
Don't know	2.07	1.34-3.20	**0.001**
Community Participation			
No Role	3.36	2.32-4.88	**<0.001**
Encouraging others	0.36	0.25-0.51	**<0.001**
Others (Reference)	1.00		
Health Seeking Behavior			
Traditional/ Herbalist	1.00		
Chemical/Pharmacy shops	1.36	1.01-1.82	**0.040**
Health Facility	0.67	0.47-0.95	**0.026**

Bivariate logistic regression was carried out on the factors that were initially statistically significant. The factors that were significant were: household head's occupation, education, total income, monthly income, socio-economic, visit to the health facility, number of household members who visited the health facility within the past six months, presence of chronic disease and amount spent on health during the last visit to the health facility or before joining the NHIS. Other factors were method of knowing NHIS, mode of paying the premium, knowledge of the ownership of the scheme, community's participation in the establishment of the scheme, trust in the scheme and its management and the health seeking behavior of the community.

The result shows that even though some variables were initially statistically significant; they were not after the bivariate logistic regression analyses. The variables that were not significant were: whether any member of the household had visited any health facility within the past six months, the means through which the household head got to know about the NHIS and lastly, trust in the scheme and its management. Those variables from table 4.8 that were statistically significant after the logistic regression have been described below. These were: household head's occupation, education, monthly income, total household income and expenditure, other household members working, socio-economic status, number of household members who visited the health facilities within the past six months, presence of chronic disease, amount spent on health during the last visit to the health facility or before joining the NHIS, method of knowing NHIS, mode of paying the premium, knowledge of the ownership of the scheme, community's

participation in the establishment of the scheme and the health seeking behavior of the community.

Though household heads with primary or JSS level of education were more likely not to register with the scheme when compared with those without any formal education, this was statistically insignificant. However having a tertiary education reduced household heads likelihood of not registering with the scheme by 0.89 (89%) as against no formal education.

Within the occupation category, when compared with traders, being a Civil Servant reduced a household head's likelihood of not registering with scheme by 0.96 (96%) whilst farmers and the unemployed were 2.77 and 2.19 times more likely not to register with the scheme respectively.

Household heads with a total monthly income within the range of ¢1,000,000.00 or more have reduced probability of not registering in the scheme by 0.49 (49%) as against household heads with income ¢199,000.00 or less. On the other hand, household heads whose monthly income was ¢99,000.00 or less were 1.73 (173%) times more likely not to register with the scheme as compared to those with monthly income within ¢200,000.00-¢299,000.00. However, those with income ¢500,000.00 or more have reduced risk of not registering with the scheme by 0.62 (62%) as compared to household heads with income within ¢200,000.00-¢299,000.00.

Still from table 4.8, with regards to household heads who spent within ¢200,000.00-¢299,000.00 a month, household heads who spent less than ¢99,000.00 and between ¢100,000.00 and ¢199,000.00 a month were 3.29 and 2.19 times respectively more likely not to register with the scheme. Household heads with monthly expenditure of ¢800,000.00 or more were 0.55 (55%) times more likely to register with the scheme. As expected, being in the highest socio-economic income group reduced the household head likelihood of not registering with the scheme by 0.50 (50%) as compared to those in the lowest socio-economic income group.

Regarding the health status of the family, household heads with a member within the family having a chronic disease were 0.70 (70%) times more likely to participate in the scheme as compared to those without chronic disease. Those household heads who have been paying averagely ¢49,000.00 or less any time they visit the health facilities were 2 folds more likely not to register with the scheme whilst those who spent ¢100,000.00 or more at the health facilities were 0.40 (40%) times more likely to register with the scheme with reference to those who spent between ¢50,000.00-¢99,000.00.

Considering the community's knowledge and perception of NHIS, methods of payment of the premium, ownership, role played as well as health seeking behaviors of the community were found to be significant.

Payment by installment made household heads 80 times more likely to register whilst exemption reduced household heads likelihood of not enrolling in the scheme by 0.88 (88%) as compared to payment upfront.

Knowing that the scheme belongs to the community members who have registered reduced the risk of not registering with the scheme by 0.87 (87%) whilst not knowing the ownership of the scheme increases the likelihood of not registering with the scheme by 2.07 (207%) folds as compared to believing that the scheme belongs to the government.

Believing that one has no role to play increased the risk of household heads not registering with the scheme by 3.36 (336%) folds but when household heads who believe that they have a role to play by encouraging others to register have reduced likelihood of not participating in the scheme by 0.64 (64%) with reference to those who played other roles like praying for the scheme to succeed and just to register with the scheme.

Those household heads who use the health facility as their first point of seeking health care have reduced risk of not registering with the scheme by 0.33 (33%) but contacting chemical or pharmacy shop first at a time of sickness increased household heads of not registering with the scheme 1.36 (136%) folds as compared to those who use other places like traditionalists or herbalists as their first point of seeking health care.

4.5.2 Logistic Regression analysis on all the factors (Multiple regression Analyses)

Table 4.9: Multivariate Analysis showing the parameters after the logistic regression

Variable	Odds Ratio	95% CI	P-Value
Gender			
Female	**0.25**	0.08-0.80	**0.020**
Male	1.00		
Age (Years)			
20-29	1.00		
30-39	1.30	0.34-5.02	0.699
40-49	**5.21**	1.25-21.84	**0.024**
50-59	4.60	0.78-26.96	0.091
60-69	**6.28**	7.32-53.90	**<0.001**
No. of Dependants.			
0-2	1.00		
3-5	**0.11**	0.03-0.41	**0.001**
6 or more	**0.15**	0.02-0.90	**0.039**
Occupation			
Civil Servant	1.00		
Farmer	**5.73**	7.20-45.61	**0.011**
Unemployed	**1.97**	1.97-19.54	**<0.005**
Traders	1.05	0.67-12.53	0.067
Others	**1.21**	2.99-48.72	**<0.021**
Education level of HH			
No formal	1.00		
Primary	0.92	0.06-13.57	0.953
JSS	1.26	0.06-26.17	0.883
Middle	0.75	0.06-10.12	0.826
SSS	**1.96**	1.32-29.03	**0.031**
Tertiary	0.41	0.03-6.01	0.517
Total HH Income			
0-199000	1.00		
200000-399000	1.00	0.17-6.00	0.996
400000-599000	1.45	0.36-5.89	0.603
600000-999000	1.08	0.21-5.52	0.926
10000000 or more	0.36	0.07-1.68	0.192

HH Monthly Income			
0-99000	1.00		
100000-199000	2.27	0.49-10.51	0.294
200000-299000	2.68	0.52-13.85	0.241
300000-499000	1.74	0.36-8.36	0.488
500000 or more	3.95	0.65-24.04	0.136
Other members of the HH working			
Yes	1.86	0.43-8.04	0.406
No	1.00		
Socio-economic status			
First Quintile	1.01	0.26-3.92	0.995
Second Quintile	1.00		
Third Quintile	1.19	0.28-5.07	0.818
Forth Quintile	0.81	0.20-3.21	0.761
Fifth Quintile	1.29	0.34-4.86	0.711
Access to health care			
Yes	**3.34**	1.02-11.67	**<0.001**
No	1.00		
Distance to the nearest HF			
Near (within 1 km)	1.00		
Far (between 2-4 km)	0.23	**0.08-0.60**	**0.003**
Very far (5 km or more)	1.42	0.26-7.84	0.688
Presence of Chronic disease			
Yes	0.35	0.08-1.52	0.161
No	1.00		
Amount spent on health during the last visit to the HF or before joining the NHIS			
0-49000	1.00		
50000-99000	0.49	0.18-1.32	0.158
100000 or more	0.37	0.11-1.26	0.111
Obtaining all drugs at the HF			
Yes	**3.55**	**1.31-9.61**	**0.013**
No	1.00		
Community's health seeking behavior			
Traditional/ Herbalist	1.00		
Chemical/ Pharmacy shop	1.04	0.11-10.13	0.971
Health Facility	0.91	0.09-9.34	0.937
Attitude of health workers			
Yes	2.67	0.96-7.44	0.061
No	1.00		
Cleanliness of the health facility			
Yes	**0.01**	0.01-0.04	**<0.001**
No	1.00		

Means of knowing the NHIS			
By means of Radio or TV	1.00		
Durbar organized by the NHIS	1.07	0.37-3.11	0.906
Through friends and relative	1.19	0.38-3.74	0.759
Other	1.46	0.26-8.20	0.665
Mode of payment			
Upfront	1.00		
Exemption	**0.01**	0.00-0.06	**<0.001**
installment	**0.04**	0.01-0.12	**<0.001**
Knowing the ownership of the scheme			
The government	0.91	0.39-2.11	.827
The registrants	0.12	0.01-1.11	0.062
Other	1.00		
Community participation			
No role to play	1.00		
Encouraging others to register	**0.27**	0.11-0.68	**0.006**
Others	0.05	0.00-1.03	0.052

Table 4.9 shows the result of the multivariate logistic regression analysis in which all the variables were analyzed together. Certain variables eventually came out as factors that influence registration with the NHIS at the KND. Under the household head factors, the following were statistically significant: gender, age, number of dependants, level of education and occupation.

From table 4.9: Household heads who are females were more likely to register with the scheme than male household heads (OR=0.25, 95% CI=0.08-0.80 and P-value=0.020). Household heads aged between 40-49 years and 60 years and above were 5.21 and 6.28 times respectively more likely not to register with the scheme as against those within the age group of 20-29 years.

The number of dependants a household head possessed also influences the decision as to register with the scheme or not. Household heads who have 3-5 and 6 or more dependants

have reduced likelihood of not registering with the NHIS by 0.89 (89%) and 0.85 (85%) respectively as compared to households heads with only 2 or less dependants.

Education and occupation also play a role in participating in the scheme. Surprisingly household heads with SSS level of education were 1.96 times more not to register with the scheme than those with no formal education. As expected farmers, the unemployed and those household heads with other occupations (like carpenter, seamstress and casually employed) were 5.73, 1.97 and 1.21 times respectively more likely not to register with the scheme as compared to civil servants

Some of the community factors that were statistically significant were: geographical accessibility to health care, mode of payment of the premium and the community's participation in the establishment of the NHIS. The study revealed that household heads that have access to health care were 3.30 times more likely not to register with the scheme as compared to those who did not have access to health care. Again those staying within 2-4 km from a health facility were 0.77 (77%) times more likely to register with the scheme with reference to those staying within 1km or less.

Payment of the premium by installment and exemption was found to influence participation in the NHIS. If payment is by installment or exemption, the risk of household heads not participating in the scheme is reduced by 96% or 99% respectively when compared to upfront payment.

Another community factor that was found to be important is community participation in the scheme establishment. Believing that one has a role to play by encouraging others to register reduced a household head likelihood of not enrolling in the scheme by 0.73 (73%) as against those who believe they have nothing to do.

Characteristics of the health facility that were found to statistically influence participation in the scheme were cleanliness of the health facility and obtaining all the prescribed drugs at the health facility. Believing that the health facility was clean reduced the risk of not registering with the scheme by 99% as compared to those who taught that the health facility was not clean. Surprising household heads who obtained all their prescribed drugs at the health facility were 3.55 times more likely not to participate in the scheme.

Therefore apart from the reasons cited by the cases as to why they have not registered with the scheme the following major factors were also found to influence registration with the scheme. These were: gender, age, number of dependants, household occupation and education (household characteristics). The community characteristics were access to health care, mode of paying the premium and community's participation in the establishment of the scheme. Finally the health facility factors were obtaining all the drugs at the facility and cleanliness of the facility.

Other minor factors found during the research was socio-economic status of the household head, total household and household head monthly income, having other members of the household working, amount spent on health before joining the scheme or

during the last visit to the health facility, presence of chronic disease, community's health seeking behavior and knowing who is the owner of the scheme.

CHAPTER F IVE

5.0 DISCUSSION

The study was conducted to find reasons why the people of Kassena-Nankana District are not registering with the National Health Insurance Scheme (NHIS). Some of the household head, community and health facility characteristics were found to significantly influence participation in the National health insurance scheme.

5.1.0 HOUSEHOLD HEAD CHARACTERISTICS

Some of the household head demographic characteristics were found to be statistically significant in either enhancing or militating against registration with the scheme in KND. Gender and number of dependants were found to enhance registration with the scheme whilst age, household head education and occupation on the other hand hinder enrollment with the schemefcdx.

5.1.1 Household head factors that promote participation in the scheme.

With reference to table 4.9, households headed by females were found to be 0.75 (75%) times more likely to register in the scheme as compared to household head males. This means that households being headed by females promote registration in the scheme as against being a male household head. This conforms to Jutting's findings in Senegal report paper (Jutting, 2003) but contradicts what Agyepong found in the study of some health insurance schemes in Ghana (Agyepong et al, 2006). This may be due to the fact that females of child bearing age frequent the health facility (hospital) more often than the males. Again in terms of disease complications which result in admission of the

patient at hospital, most often than not it's the females who stay at the hospital to take care of the sick and hence suffer more than the males.

The study again established that family size and hence the number of dependants a household head has is another factor that influence enrollment. Household heads with number of dependants between 3-5 and 6 or more are more likely, 0.89 (89%) and 0.85 (85%), respectively of not participating in the health insurance scheme with regards to those household heads having 0-2 dependants (table 4.9). This agrees with the findings in Dangme West in Ghana (Agyepong et al, 2006) and a study in Burundi (WHO, 2003).

Since the premium is kept flat (¢72,000.00/any adult above 18 years) irrespective of the number of dependants below 18 years, the average contribution per household is therefore less in household with larger dependants below 18 years than for smaller families hence inducing greater participation in large families. From table 4.1, for household heads who responded that they have three or more dependants, 52% of them have enrolled with the scheme confirming what has been said above.

5.1.2 Household head factors that hinder participation in the scheme.

Another household head characteristic that was important is the age. The study revealed that the modal age group for both the cases and the controls were 30-39 years (table 4.1) which is consistent with what was found in Dangme West in Ghana (Agyepong et al, 2006). With reference to the age group 20-29 years, household heads who are between the age groups of 40-49 years and 60-69 years are at a risk of 5.21 and 6.28 times of not

registering with the scheme (table 4.9). This result is in line with finding in Senegal (Tenkorang, 2001). This could be due to the fact that the younger household heads are more adventurous and open to innovation and therefore likely to participate in the scheme than older household heads (Tenkorang, 2001).

The risk of not enrolling in the scheme is higher in farmers (5.73 times), unemployed (1.97 times) and other occupations like seamstress, artisans and drivers put together (1.21 times) with reference to civil servants. Similar findings were found in Cameroon (Joachim et al) and conform in part to what was found in Dangme West (Agyepong et al, 2006). However this study shows that the other occupations are more likely not to register with scheme which contravenes what was found in Dangme West (Agyepong et al, 2006). This is as expected since civil servants are exempted from paying directly for the premium but rather through SSNIT contribution. Again civil servants are assured of their income at the end of every month. The unemployed on the other hand are non direct income earners who do not have any job and since they are struggling for survival every day, they are less willing to pay for insurance (Preker et al, 2002 and Joachim et al, 2003).

Various living standard surveys in Ghana have shown that farmers in the northern savanna are among some of the poorest groups in the country (GSS, 2000) as most of them are subsistence farmers (DHMT, 2005). Therefore it is not surprising that lack of money was cited as the main reason (66.9% of the cases) for not registering with the scheme.

The other occupations may not receive regular income as income would depend on the activities within the district and since the district is mainly rural (DHMT, 2005) activities within the district would be low. This may account for the reason why the other occupations also have high risk of not registering with the scheme.

Surprisingly, with reference to no formal education, household heads with SSS education level are 1.96 times more likely not to register with the scheme (refer to table 4.9). This contradicts with what was found in the evaluation of health insurance for the informal sector in Africa (Tenkorang, 2001).

From table 4.7a, it was revealed that for household heads with SSS level of education, 37.9% of them are unemployed as compared to only 23.7% of household heads without any formal education. Again only 13.8% of the household heads with SSS level of education are traders as compared to 36.6% of household heads with no formal education. Since the probability of the unemployed and trader not registering is high and low respectively then it means household heads with SSS level of education are more likely not to register. Again as can be inferred from the 2005 annual report (DHMT, 2005) that the major occupation of the district is farming and therefore it's difficult to get employment after completion of SSS education.

5.2.0 Community factors which were significant in enrollment in the scheme

5.2.1 Community factors that hinder participation in the scheme.

Unexpectedly, those who claim to have access to health facility are 3.34 times more of not registering with the scheme than those who do not (from table 4.9). But this finding contradicts what was found in Dangme West (Agyepong et al, 2006). Looking at the map of distribution of health facilities within the district, there are only six health centers (even though seven are shown on the map one is a research center) couple with the fact that KND has a scattered type of settlement (DHMT, 2005).

This means that the access to health facility that the people claim to have is only access to Community Health Planning Services (CHPS) which is well established in KND. These CHPS are only manned by community health nurses and therefore the service provided may just be similar to first aid hence the quality may be low. Even then there are only seventeen CHPS centers in the district.

5.2.2 Community factors that promote participation in the scheme (form table 4.9)

Another surprised finding was the relationship between registration and distance to the nearest health facility. The study revealed that those household heads who claim to be staying within 2-4km from a health facility 0.77 (77%) times more likely to register with the scheme than those who stay within just a kilometer or less from a health facility. This result differs from what was found in Nkoranza (Tenkorang, 2001) and Dangme West district (Agyepong et al, 2006).

The possible reasons may be that most of the study respondents who stay within 1km or less from health facilities were farmers (20.1%), unemployed (26.6%) and others (17.3%) whilst for those who stay far away only18.0%, 15.8% and 20.9 % were farmers, unemployed and others respectively (table 4.7b). As discussed earlier farmers, unemployed and other occupations are 5.73, 1.97 and 1.21 times respectively more likely not to enroll in the scheme as compared to civil servants. Cumulatively, 64.0% of those who stay near health facility have high probability of not participating in the scheme as against only 54.7 % of those who stay far away.

In line with various literature reviews, household heads who believe that they have a role to play by at least encouraging or advising others to register have their probability of not registering in the scheme reduced by 0.73 (73%) as against those who believe that they have no role to play. In Senegal, one major basic factor that was found to contribute to the success of a micro-health insurance scheme was the local population's participation from the very start. (Parker et al, 2003).

Most (73.7%) of those who believe that they have a role to play have registered with the scheme (table 4.3) as against only 22.9% of those who believe they have no role to play have registered. Participating in the scheme make the members feel they are part of the scheme's success in case it's successful (Atim et al, 2000). Also community participation was seen as the best guarantee of regular payment of premiums and acceptance of policy of the insurance scheme (Lynne et al, 2003; Atim et al, 2000 and Tenkorang, 2001).

The other factor that was found to be significant was the mode of payment of the premium. In this research it was established that payment of the premium by instalment and by exemption reduced the probability of household head not registering with the scheme by 0.96 (96%) and 0.99 (99%) respectively as against upfront payment. This is in line with findings in Senegal (Jutting, 2003).

But the validity of these odds ratios are affected by the figure in each cell, hence since the number of cases who said they would like to pay by exemption were three (3) and that of control who said they would like to pay by instalment was one (1) , this particular result might be affected by such distribution. Each cell should contain more than 5 elements for an odds ratio to be acceptable.

The mode and the time of collecting the premium plays significant role in enrolling in the scheme (Jutting et al, 2003). Payment of premium could be made monthly or quarterly instalment so as to match the income pattern of the people in the district to enhance registration as found in the WHO study (WHO, 2003). This mode of payment would introduce flexibility to make more people able to afford the premium since most of the non registrants indicated they prefer paying the premium by instalment (table 4.3). In the WHO study it was realised that only a few households were able to pay upfront for a full year or even six-month membership hence payment by monthly or quarterly instalment was introduced.

Exemption was another way to increase participation in the scheme. Civil servants are exempted from paying the premium directly as premium would be deducted from their SSNIT contributions. On the other hand the core poor and the aged above 70 years are also supposed to be exempted. Since the KND is among the poorest in the country and even has higher poverty rate than the national figure of the 70% of the population (GSS, 2000 and GHS, 2004), therefore most of the people of KND may be in this group and may not be able to afford the premium. This is confirmed by the fact that most (66.9%) of the reason given for non registration was lack of money (table 4.6). Again the district is mainly rural and the main occupation being subsistence farming (DHMT, 2005) affirming this fact that they may be very poor as most farming and rural communities in Ghana are considered poor (GSS, 2000).

5.3.0 Health facility characteristics.

Two main health facility characteristics that were found to influence participation in the scheme were obtaining all the drugs prescribed at the health facility and the cleanliness of health facility.

5.3.1 Health facility's factors that hinder participation in the scheme (form table 4.9)

Another factor that was found to influence enrolment in the scheme is availability of (all) drugs. Obtaining all drugs at the health facility surprisingly increased the risk of household heads not enrolling in the scheme by 3.55 folds. This agrees with what was found in Senegal in which some members of a scheme complained that "Drugs were not

in stock and the scheme members were going to the health post without receiving drugs. But when they were not members of the scheme they were obtaining all their drug and this would therefore not influence others to join as people would like to remain uninsured in other to obtain all their drugs'' (Lynne et al, 2004).

Also in the review of health insurance in Ghana (Aikins, 2003), a concern that was raised is the issue of drug availability as some of the scheme members wanted improvement in the drug supply so that they would be able to obtain all the drugs prescribed at the health facility (Aikins, 2003). Therefore not getting all the drugs at the health facility is a factor that prevents or hinders people from registering with the scheme and hence people would prefer to be in situations that would enable them to obtain all their drugs at the health facility. This was confirmed by 1.2% of the non registrants who cited the reason that they knew a registrant who could not obtain all his or her drugs at the health facility that was why they have not registered.

5.3.2 Health facility factors that promote participation in the scheme.

Cleanliness of the health facility had been cited in the literature as among other reasons why non members of health insurance had not enrolled in the scheme (Doris et al, 2000; Jutting, 2003 and Tenkorang, 2001). In this study, it was established that those who believe that the health facilities were clean have reduced risk of not registering with the scheme by 0.99 (99%) as against those who believe that the facilities were not clean (from table 4.9). If people feel that they would get value for money in terms of cleanliness and hence quality of care at the health facility then even the poor would be

willing to participate in the insurance scheme (Tenkorang, 2001; Jutting, 2003 and Doris et al, 2000).

5.4 Reasons cited for not registering with the scheme

The main reasons cited for registering with the scheme by the respondents were lack of money (66.9%), family size (12.2%), lack of knowledge and understanding of the scheme (11.7%), preparing to register because one wanted to see how successful the scheme would be (3.1%), travelling a lot due to nature of work (2.5%), lack of trust (1.2%), knowing a registrant who could not obtain all the prescribed drugs at the health facility (1.2%) and lastly because the husband did not register for the family (1.2%)

It is not surprising that lack of money and hence affordability of the scheme was cited as one of the main reason for not participating in the scheme. This is because the district is among the poorest district in the country (GSS, 2000) and also non affordability of the premium due to lack of money has cited in many as the reason for low participation in various schemes in Africa (WHO, 2003).

Large family size has also been cited in many literature reviews as the cause of not registering with the scheme. In the Dangme West study for instance, 3% cited large family size as the reason for not registering (Agyepong et al, 2006). Also the 2005 annual report indicated that the average household size is ten (10) (DHMT, 2005).

In the review of achievement and the challenges of some emerging health insurance in Ghana (Aikins, 2003), some of the non insured people stated that they are preparing to register because they did not have non disposable income at the time of registration.

Lack of trust in the scheme and its management and even among the registrants themselves is another factor that influences registration in the scheme (Preker et al, 20003 and WHO 2003).

From the above discussion, it could be seen that apart from financial constraint, other factors also contribute non participation in the scheme.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 CONCLUSION

The study revealed that the characteristics of the registrants are different from the non registrants. Judging from the background information of the district, the most prominent occupation of the people is subsistence farming. Therefore most of the people are poor with large family to take care of; hence they find the premium of the scheme unaffordable. But apart from the premium, other factors militate against registration with the scheme that must be addressed for the successful implementation of the scheme.

6.2 RECOMMENDATIONS:

1. Health workers should improve upon the quality of service provided since it came out by this study that improving the quality of services in the form of cleanliness of the health facility and the improved drug supply would enhance registration in the NHIS.

2. The district scheme manager and his team should sustain and intensify education on the scheme for the people to understand that dependant less than 18 years and 70 years and above are exempted from paying the premium. The mode of payments of the premium should be included in the educational programmes since some of the respondents were not aware that they could pay installment. The education programme should be intensified at the end of the harvesting season since that is the time most people have money.

3. The community members should be made aware that the success of the scheme depends on them because they have a role to play by registering with the scheme, encouraging and advising others to register.

4. The district scheme manager should put in place proper mechanism to be able to identify all the indigenes and the poor families to benefit from the exemption policy for the poor as most of the uninsured people stated lack of money as their reasons.

5. The elderly should also be advised to register in order to obtain the scheme's ID card that would allow them access health care any of them is not well

6. More research should be conducted as to substantiate or otherwise some of the finds from this research.

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APPENDICES

APPENDIX I

Questionnaire

Questionnaire on the topic Factors contributing to the low registration of National Health Insurance Scheme (NHIS) in Kessena-Nankana District (KND) in the year June 2006.

Name of interviewer.....

Name of village.....

House No.....

Please tick the appropriate answer. (Unless otherwise stated, tick only one.)

1.0 Gender of household head?

(1) Male [ ] (2) Female [ ]

2.0 How old is the household [ ][ ] head?

3.0 Marital status of household head?

(1) Not married [ ] (2) Married [ ]

4.0 If married, are you in a polygamous relationship?

(1)No [ ] (2) Yes [ ] (3) Not Application [ ]

5.0 How many dependants have [ ][ ] you?

6.0 How many of your dependants are below 18 years? [ ][ ]

7.0 How many of your dependants go to school? [ ][ ]

8.0 How many of your dependants are 70 years and above? [ ][ ]

9.0 What is your (household head) level of education?

(1) No formal education [ ] (2) JSS level [ ] (3) Primary school level [ ]

(4) Middle school level [ ] (5) SSS [ ] (6) Tertiary level [ ]

10.0 What is your occupation?

(1) Trader [ ] (2) Civil servant [ ] (3) Farmer [ ]

(4) Unemployed [ ] (5) Others (Specify) .....

11.0 Is your spouse employed?

(1) No [ ] (2) Yes. [ ] (3) Not applicable. [ ]

12.0 If yes please specify

(1) Trader [ ] (2) Civil servant [ ] (3) Farmer [ ]

(4) Unemployed [ ] (5) Others (Specify) .....

13.0 Apart from the parent, are any members of the household working?

(1) Yes [ ] (2) No [ ]

14.0 Please estimate your (both partners if married and any other member who is working) total gross monthly household income?

15.0 Roughly what is your average monthly household expenditure? [ ]

16.0 Please do you get extra money from your children or relatives outside the household?

(1) No [ ] (2) Yes [ ] **[if No, please go to Q 19]**

17.0 If yes, how often do you get this money?

(1) Weekly [ ] (2) Monthly [ ] (3) Quarterly [ ]

(4) Yearly [ ] (5) Sometimes [ ] (6) Others [ ]

18.0 If others please specify.....

19.0 Please what is your monthly income? [ ]

20.0 Have you been a member of any financial association (e.g. Susu) before?

(1) No [ ] (2) Yes [ ]

21.0 If yes, what was your experience?

(1) Unsuccessful [ ] (2) Successful [ ] (3) Not applicable [ ]

22.0 Type and Number of assets owned by household

Code Asset Type	Owned by household? No = 0 Yes = 1	Number Owned
Livestock		
Cattle		
Sheep		
Goats		
Pigs		
Donkeys		
Guinea fowls/Fowls		
Transportation (In working condition)		
Tractors		
Cars		
Motorbike		
Bicycle		
Appliances and Electronics (In working condition)		
Radio		
Radio with tape		
Television		
VCD/DVD		
Refrigerators/Fridges		
Sewing Machines		
Electric or gas cookers		
Electrical lamps (bulbs) or lanterns		
Fan (electric)		
Traditional lamp		

HOUSING	
What is the main material for the wall?	Concrete=1 Mud=2 bricks=3
Does the household have a modern design?	No = 0 Yes = 1
Does any building in this household have zinc roofing? (excluding animal compound)	No = 0 Yes = 1
What type of cooking fuel source primarily is used?	Wood= 1 Charcoal = 2Gas /Electricity = 3.
What are the toilet facilities for this house?	Free range = 1 Pit latrine = 2 KVIP = 3 Pan latrine= 4 WC = 5 Others.....6
Major source of drinking water	Borehole = 1 Well = 2 Stream = 3 Standing pipe = 4 Others.....5
Frequently used cooking utensils in this household?	Earth bowls = 1 Aluminium pans= 2 Earth/aluminium =3 Plastic pans = 4others.....5

23.0 Do you have access to health delivery facility in your town / village?

(1) No [ ] (2) Yes [ ]

24.0 How far is the nearest health facility from your home?

(1) Near (within 1km) [ ] (2) Far (between 2-4km) [ ]

(3) Very Far (5km and above) [ ]

25.0 Where do you normally go for treatment when ill?

(1) Go to chemical or pharmacy shop to buy medicine for myself. [ ]

(2) Go to hospital or health facility for treatment. [ ]

(3) Go to herbalist or traditionalist for treatment [ ]

(4) Depends on friends and relatives for medications. [ ]

(5) Others [ ] Please specify.

26.0 How much do you spend on transportation from your house to the nearest health facility?

(1) I walk or use bicycle to travel to the hospital [ ]

(2) Amount .....

27.0 During the past six months did you or any member of your family fall ill?

(1) No [ ] (2) Yes [ ]

28.0 If yes, how many have been sick? [ ][ ]

29.0 What is your perception on the quality of treatment at the medical facility used? Would you say you were satisfied?

(1) No [ ] (2) Yes [ ]

30.0 Do you have anybody in your family who has a chronic disease?

(1) No [ ] (2) Yes [ ]

31.0 If Yes, please specify .....

32.0 Have you heard about the National Health Insurance Scheme (NHIS)?

(1) No [ ] (2) Yes [ ]

33.0 Before you joined the health insurance or if you have not yet joined, how much, roughly, were you or any member of your household spent in each visit to the health facility with ordinary sickness? [ ]

34.0 How did you get to know about it?

(1) Through a the radio or the television [ ]

(2) Read about it in the National news paper [ ]

(3) Heard about it through a durbar organised by the District mutual health insurance management. [ ]

(4) Others [ ]

35.0 What do you know about the national health insurance scheme?

.....

36.0 Do you think the National Health Insurance solves the problems of "Cash and Carry"?

(1) No [ ] (2) Yes [ ]

37.0 Which one do you prefer?

(1) Cash and carry [ ] (2) National health insurance [ ]

38.0) Who do think owns the Health Insurance Scheme?

(1) The government [ ]

(2) The community members who have fully registered [ ]

(3) Others [ ]

39.0 What role did you play in the establishment of the scheme in your community?

(1) I did not have any role to play [ ]

(2) I have been encouraging or advising others to register. [ ]

(3) Others [ ]

40.0 Do you trust the scheme and its management?

(1) No [ ] (2) Yes [ ]

41.0 What do you think about the premium?

(1) It too much [ ] (2) its just right [ ] its too small [ ]

42.0 Have you registered with the NHIS?

(1) No [ ] (2) Yes [ ]

43.0 If No, why have you not registered?.....

.....

.....

44.0 If yes, were you exempted from paying the premium or not?

(1) No, I was not [ ] (2) Yes, I was exempted [ ]

45.0 If registered, how many of your dependants were exempted? | | |

46.0 How did you or would you like to pay your premium?

(1) Upfront payment [ ] (2) Paid in installment [ ]

(3) In terms of goods or farm products [ ] (4) Exemption [ ]

47.0 Were able to obtain all your drugs at the health facility?

(1) No [ ] (2) Yes [ ]

48.0 Were you happy with attitude or behavior of the health staff for the times that you have been to the hospital?

(1) No [ ] (2) Yes [ ]

49.0 Were you happy with happy with the cleanliness at the health institution?

(1) No [ ] (2) Yes [ ] (3) Don't know [ ]

50.0 What do think about the time you have to wait before seeing a medical officer when you go to the health facility? (1) Too long [ ] (2) Just O.K [ ]

(3) I don't know. [ ]

APPENDIX II

CONSENT FORM

Name or thumbprint .....

Date.....

I will be pleased if you would grant me permission to ask you these few questions.

This study is being carried out to generate information on the factors leading to the low participation in the health insurance scheme in this area. The information generated will be used to plan and implement the National Health Insurance Scheme (NHIS) in KND and the whole Nation.

Your identity and any information that you will give will not be revealed but be kept confidential and be used as explained above. I will appreciate your participation. You have the right not to participate or to withdraw from the survey at any point or time you wish.

If you want more information about the research you can get the principal investigator through the District Director of Health Services, or the NHIS manager, all of KND, or School of Public Health, University of Ghana, Legon