



The Ghanaian-Dutch Collaboration for Health Research and Development

**THE PERCEPTION AND DEMAND FOR MUTUAL HEALTH INSURANCE IN THE
KASSENA-NANKANA DISTRICT OF NORTHERN GHANA
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Project Number: 2002/GD/17

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2005

Funded by the Ghanaian-Dutch Collaboration for Health Research and Development

SUMMARY

The purpose of the study was to generate relevant information that will inform decision-making in the design and implementation of mutual health insurance schemes in the Kassena-Nankana district (KND) and other districts of similar socio-economic and cultural background.

In this regard, qualitative and quantitative studies were carried out in the Kassena-Nankana district to document the perception and demand of the people of the district for a mutual health insurance scheme. A total of 29 in-depth interviews and 28 focus group discussions involving caretakers of ill persons, recently convalesced persons, heads of public health facilities, and other adult (18 years and above) community members were conducted. The quantitative study involved 985 male and female heads of households, randomly selected across the district.

The study revealed the existence of risk sharing groups like farmers groups, women's "ananoore" groups and church groups whose members contribute money that is used for funerals and other general needs. Ninety-three per cent of household heads had knowledge of the current cash and carry system (i.e., user charges). Forty-four percent of community members and all health workers interviewed were aware of the government's plan to replace the cash and carry system with a health insurance scheme. An overwhelming 93 per cent of community members expressed interest in the health insurance scheme and are willing to contribute to it. The health workers see the insurance scheme as a way of meeting the challenges associated with the cash and carry system and are also willing to be part of it.

More than 69 per cent of the respondents would like to make cash payments on installment basis whilst 26 per cent prefer cash payment upfront. Thirty-five percent of respondents would like to make their contributions after the harvest season, 14 per cent during harvest and under one per cent before harvest. A few people however believe that contributing money for illnesses yet to come was not appropriate as that in itself could invite more illnesses.

Forcing the sick to pay before receiving health care instead of care before payment was identified as the main setback of the cash and carry system and not the payment for the services especially if

the cost is not too high. Community members now expect more fairness, some respect, and dignity from health personnel and shorter waiting time after contributing towards a health insurance scheme. The general view is that the aged, children under five, and the disabled should be exempted from paying premiums under the health insurance scheme. Most respondents were willing to contribute money ranging from ₵2,000.00 – ₵24,000.00 as premium annually for health care for themselves and that this amount should cover the cost of all ailments and services from Outpatient department cards to admissions and surgery.

Age and area of residence were found to influence one's willingness to contribute to a mutual health insurance scheme with a 29 per cent decrease, 95 per cent CI (17 per cent, 40 per cent), in willingness to contribute to a mutual health insurance for every 10-year increase in age and the rural dwellers being 3.7 times, 95 per cent CI (2.1, 6.4), more likely to contribute to the scheme than those in the urban areas.

Even though, most residents of the Kassena-Nankana district who were interviewed were yet to know about the Government's plan to replace the cash and carry system with a health insurance scheme, they were not only enthusiastic but were also willing to contribute to such a scheme. However would be contributors expect some improvement in the quality of care and better attitude of health workers at the health facilities. Among others, it is also recommended that more public education should be embarked upon to create more awareness about the replacement of the cash and carry system with the district mutual health insurance scheme.

Acknowledgements

We acknowledge with gratitude the tireless efforts of all who contributed in one way or the other towards the timely completion of the study. In particular, we acknowledge the institutional support of the Navrongo Health Research Centre, the data collectors, and data entry clerks. We also acknowledge the support and cooperation of the chiefs and people of the Kassena-Nankana district especially the survey respondents. Finally, we are greatly indebted to the Ghanaian-Dutch Collaboration for Health Research and Development for agreeing to fund this study.

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LIST OF ABBREVIATIONS

LDC.....	Less developed country
KND.....	Kassena-Nankana district
NDSS.....	Navrongo Demographic Surveillance System
IDI.....	Indepth Interviews
FGD.....	Focus group discussion
KVIP.....	Kumasi Ventilated Improved Pit Latrine
CSM.....	Cerebro-spinal meningitis
OPD.....	Outpatient department
CI.....	Confident interval
OR.....	Odds ratio

Chapter One

INTRODUCTION

Background

In the wake of rising health care costs and reductions in budgetary allocations, many governments in less developed countries (LDCs) are considering options other than general tax revenue to finance their health services. Among such options, a solution favoured by lending institutions to wean governments of LDCs from providing free services is the imposition of user fees for health services (Akin *et al.* 1987; De Ferranti 1985)

The economic viewpoint is that all goods and services would have to be priced so that the marginal cost to users would equal the marginal social benefit. However, conditions that argue against full cost pricing include incomplete information for consumer choice and the presence of externalities in many of the services provided. It is also argued that the lack of mechanisms to safeguard against catastrophic expenses is more prevalent in LDCs than the developed countries (Akin *et al.* 1987). Further, many of the types of health services provided cater for only the basic health needs (merit goods) of the people.

Many countries (including Ghana) have introduced user charges in their health systems. The major motivation for introducing user fees cited by national level policy-makers and international organizations such as the World Bank, who were particularly vociferous advocates of this form of cost recovery, is that of revenue generation (Akin *et al.* 1987; Jimenez 1987; Griffin 1988; Vogel 1988; World Bank 1994). Economic difficulties in many countries stemming from low or negative economic growth and increasing indebtedness, particularly since the 1980s, limited the resources available to government for financing and providing health services (Gilson 1995; Gilson and Mills 1995). Fees were seen as an important mechanism for addressing the resource gap in financing public sector health services. User charges, it has also been argued, have the benefit of easing the government's burden and providing allocative and internal efficiency.

However, in LDCs with histories of providing free health services, there are problems of implementation (both administrative and political) and equity in the payment for services. Substantial evidence exist that user fees adversely affect health service utilisation particularly for the poorest groups of people (Santon and Clemens 1989; Yoder 1989; Mwanzia and Mwabu 1993). There have been particular concerns about the impact of user fees at primary health facilities based on evidence that this deters low-income households from seeking care until an illness is severe (Berman P. A 1995; Gilson 1988; Weaver 1992). This is likely to aggravate poverty as more advanced illnesses tend to require more expensive treatment and will have a more significant adverse effect on ability to work and generate income (Berman P. A 1995, Huber 1993). Thus, user fees can have a substantial adverse impact on access to and use of health services.

Thus, the struggle for an effective, efficient and equitable health care financing mechanism that would enhance health care access and utilization still remains a major challenge to many countries including Ghana. The alternative approach to user fees is mutual health insurance, Ghana's current policy. Community members are to contribute to a pre-paid scheme or mutual health insurance and receive care free or at a reduced cost. This is a concept of risk sharing through insurance of health services.

Statement of the problem

Health insurance is seen as one option of obtaining additional resources for the financing of health care without deterring the poor and the vulnerable group from seeking care when they need it. Health insurance has the potential of generating substantial funds for equitable health care. Government's funds so saved could then be diverted to the development and expansion of primary health care services and other infrastructure. It is a way of improving quality and access to health care as well as managing resources more efficiently.

However, the question remains whether the adoption of health insurance would be an acceptable option for the people. The study sought to investigate the perception of and demand for mutual health insurance in the Kassena-Nankana district of northern Ghana and to establish whether there are pecuniary factors that must be taken into consideration in the quest to implement the mutual health insurance policy.

AIMS AND OBJECTIVES

Aim

The main aim of this study was to provide relevant information that would lead to informed decision-making in the design and implementation of mutual health insurance schemes in the KND and other districts of similar socio-economic and cultural values.

Objectives

1. To describe the perception of the people of KND of a mutual health insurance scheme;
2. To elicit the experiences of traditional forms of risk-sharing in KND;
3. To describe the perception of health workers in the KND of a mutual health insurance scheme;
4. To identify factors that determine the demand for mutual health insurance scheme;
5. To describe the various forms of contribution to a mutual health insurance scheme;
6. To estimate the maximum amount of money that the people will be willing to contribute to such a scheme; and
7. To provide recommendations on policies for the overall implementation of mutual health insurance.

Chapter Two

STUDY METHODS

Study site

The study was carried out in the Kassena Nankana district (KND) of northern Ghana, a rural district in the Upper East Region on the northern border of Ghana with Burkina Faso. The KND is composed of 1,674 square kilometers of Sahelian savannah. About 142,000 people live in the district, virtually all of them engaged in subsistence farming of millet and livestock. There is one major town, the district capital, Navrongo, where about 10 per cent of the population lives.

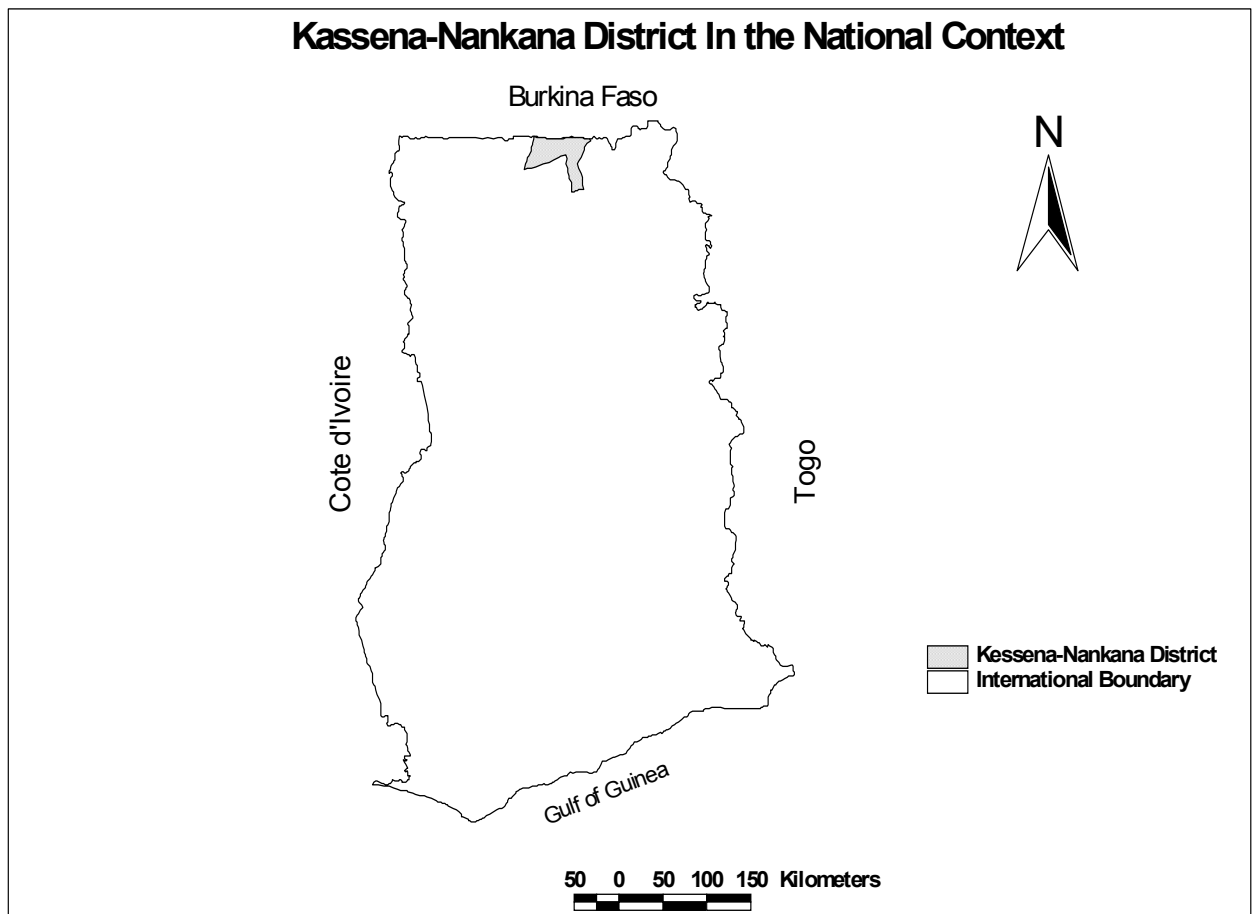
Most people live in multi-family compounds, which form the basis of an address system used in the Navrongo Demographic Surveillance System (NDSS). This allows researchers to easily locate study subjects since in addition all compounds in

the district have also been digitised using geographical information systems, which pinpoints precisely where the compound can be found.

Annual rainfall in the KND averages 850 mm and almost all of this occurs in the wet months of May to September with the rest of the year being relatively dry. On health, the district has one hospital and four health centres which provide curative and preventive health care, the latter mostly in the form of childhood immunisations. There are also two mission and two private clinics in the district.

Study design

Both qualitative and quantitative studies were carried out.



Qualitative study

In all 29 in-depth interviews (IDIs) were conducted across all communities in the district. The 29 IDIs were made up of 12 caretakers of ill persons, 12 recently recovered persons, four heads of the health centers and one head of a clinic in the district. IDIs were conducted aimed at determining the morbidity pattern, expenditure on treatment, burden of health care expenditure, users' perception on the need for health insurance services, willingness to pay for new health insurance schemes and the workload at the health facility level.

Twenty-eight focus group discussions (FGDs) were conducted in all the communities in the district targeting adults 18 years and above. Six FGDs were conducted in the urban area of the district (Navrongo central) and 22 in the rural part of the district. Each Focus group comprised eight to 12 members of similar social status randomly selected from rural and urban areas. Six well-trained field assistants in two groups of three were responsible for the FGDs; one in-charge of moderating the discussions, another tape-recording the discussions, and the third for taking down notes.

All the recorded IDIs and FGDs were transcribed shortly after the interviews. The discussions focused on morbidity pattern, expenditure on treatment, burden of health care expenditure, users' perception on the need for health insurance services, demand for health insurance and willingness to pay for the mutual health insurance schemes.

Quantitative study

The second phase of the study involved questionnaire administration by five well trained field assistants. This was based on the information gathered from the IDIs and FGDs conducted. A total of 985 heads of households were randomly selected from the whole of the district using the NDSS database as the sampling frame. The selection procedure followed a stratified sampling structure. The population was stratified into rural and urban and further into male and female. The number of participants from each stratum was based on the total population of the strata.

Sample size determination

Kassena Nankana district has about 15,000 com-

pounds and with an average of three households per compound giving an expected household head population of about 45,000. Based on similar health insurance experiment in Nkoranza (Southern Ghana) and assuming 35 per cent of the population demanding the mutual health insurance scheme, and, with precision of 3 per cent and working at the 95 per cent confidence level, the number of household heads to be interviewed was 951. However, adjusting for an expected non-response rate of 10 per cent the required sample came to about 1046.

Training of fieldworkers and supervision

Six field assistants with tertiary education background were recruited and trained on the background, aims and objectives of the study, the role of the interviewer and community entry strategies for a period of two weeks. They were also trained on the administration of the various study instruments. Mock interviews were also conducted as part of the training. This was followed by supervised pre-tests in the field to assess the competences of the field assistants. Actual data collection commenced on the 29th September and ended on 28th November 2003 with weekly meetings of the field assistants and the investigators to address issues from the field.

The second phase, which was a quantitative survey, started following the completion of the first phase. Five field assistants, four from the six who participated in the first phase and one newly recruited person were hired for the survey. The five field assistants were given two weeks intensive training on techniques of conducting interviews. Pilot tests were conducted from 5th to 13th January 2004. Actual fieldwork for the quantitative survey started on the 14th January 2004 and ended on 27th February 2004. As was the case with the qualitative data collection, weekly meetings of the research team were instituted meant to address issues that came up in the course of data collection as well as refresh field assistants on the survey instrument. As part of the quality checks, periodic field visits were also undertaken by the research team to supervise data collection.

The survey instruments

Survey instruments were designed and translated into the two main dialects of the study area. The three

main survey instruments and guides (see appendix) include:

1. The FGD guide;
2. IDI guides; and
3. The questionnaire

The FGD guide

The FGD guide was divided into three sections in order to investigate the following:-

- a. Morbidity and health seeking pattern of community;
- b. Treatment cost; and
- c. Risk sharing mutual support.

The IDI guide

Two types of IDI guides were used (one for the recently convalesced persons and the other for care-takers of sick patients) consisting of the following sections:-

- a. Background and demographic characteristics of respondent;
- b. Morbidity and health seeking pattern;
- c. Treatment cost; and
- d. Risk sharing/mutual support.

Another IDI guide was for the health workers at the health centers and consisted of the following sections:-

- a. Background and demographic characteristics of health facility;
- b. Staff motivation;

- c. Morbidity and health seeking pattern;
- d. Treatment cost;
- e. Risk sharing/mutual support;
- f. Role of health worker in the implementation of the scheme; and
- g. Management and reimbursement of premiums.

The survey questionnaire

The questionnaire administered to the head of the household consisted of six sections:-

- a. Socio-economic and demographic characteristics of interviewee (household head);
- b. Farm produce (basic assets/wealth);
- c. Household baseline survey (household possessions and assets/wealth);
- d. Morbidity and health seeking behaviour;
- e. Treatment cost and expenditures; and
- f. Risk – sharing under mutual health insurance.

Data analysis

The quantitative data were double entered and validated in FoxPro™ 2.6 for DOS. Further cleaning was done using STATA version 8.0 for Windows. An analysis plan based on the objectives of the study was drawn up and used to analyse the quantitative data. The qualitative data was manually analysed by reading through all transcribed scripts. Relevant teams were then teased out and critically analysed.

Chapter Three

RESULTS

Socio-economic and demographic characteristics of respondents

A total of 985 household heads were interviewed of whom 70 per cent were males. Eighty per cent of the respondents were below 60 years whereas 20 per cent were aged 60 years and above. The mean age of the respondents was 47 years (Table 1).

Table 1
Sex and age distribution of respondents

Characteristic	Number	Percent	95% CI
Sex			
Male	694	70.5	(67.5- 73.3)
Female	291	29.5	(26.7,32.5)
Age group (years)			
<20	2	0.2	(0.02, 0.7)
20–29	133	13.5	(11.4, 15.8)
30–39	206	20.9	18.4, 23.6)
40–49	230	23.4	(20.7, 26.1)
50–59	212	21.5	(19.0, 24.2)
60+	202	20.5	(18.0, 23.2)

On occupation, 74 per cent of the household heads were farmers, with less than one per cent of them being large-scale farmers. Traders/artisans and civil/public servants formed 13 per cent and 7 per cent respectively of the respondents. Four per cent were either unemployed or too old to do any work. By ethnicity, 52 per cent of the respondents were Kassena, 44 per cent were Nankana, while 4 per cent belong to the Balsa and other ethnic groups. Educational levels of respondents were quite low. Sixty-three per cent of the respondents had no formal education, 28 per cent had basic education, that is, primary up to junior secondary/middle school with less than 9 per cent having had secondary or higher education. On religious affiliation, 60 per cent of the respondents are practising traditional religion, 35 per cent Christianity with Muslims being less than 4 per cent

The median household size was five persons with 82 per cent having their domestic water supply from bore-holes or stand pipes, 15 per cent from wells, and 2 per cent from dams or streams. Ninety-

one percent of the respondents indicated that they defecate in the open (termed free range) with only 8 per cent and one per cent respectively using pit latrine/KVIP and water closets (see Appendix 1 for details).

Thirteen percent of the household heads had wealth of value one million cedis or less, 28 per cent were worth one to three million cedis with just 19 per cent of households being worth over 10 million cedis (Figure 1).

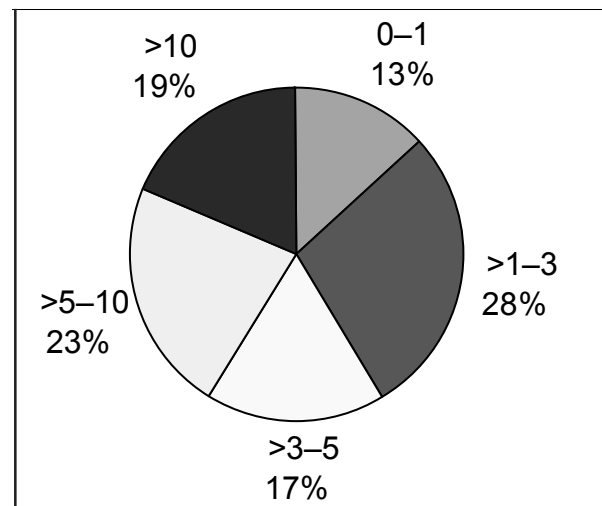


Figure 1: Percentage distribution of household wealth (¢million)

Common illnesses in the KND

Community members have a very broad knowledge of their health problems and see malaria, respiratory tract infections, and diarrhoeal diseases as the most common illnesses in the community. This was

revealed by both the qualitative and quantitative studies. Several other conditions including headache, fever, cerebro-spinal meningitis (CSM), and eye diseases were indicated as being common in the area. Many other illnesses were also mentioned¹. Table 2 presents a summary of illnesses perceived to be common in the KND.

dispensaries and other vendors, visit the resident community health officer, and send the sick to clinics/hospitals. Most patients go through various combinations of the treatment options. In the case of children, parents either start with leftover medicines in the homes, which they might have obtained during a previous clinic/hospital attendance or bought

Table 2.

Illnesses perceived by community members as being common in the Kassena-Nankana district

Characteristic	Number	Per cent	95% CI
Malaria/fever	857/985	87.0	(84.7, 89.0)
ARI	258/985	26.2	(23.5, 29.1)
Diarrhoea	163/985	16.5	(14.3, 19.0)
Other	502/985	51.0	(47.9, 54.1)

from a drug store on prescription, boiled

Note: Multiple answers were given and so the percentages do not add up to 100 per cent.

Malaria, diarrhoea and convulsions were thought to be the most common and severe health problems that affect children. For pregnant women, malaria, bodily pains, and vomiting were thought to be the most common health problems. The aged are known to suffer mostly from malaria, waist problems, bodily pains, knee, and eye problems. In the case of the adolescents, sexually transmitted diseases and HIV/AIDS were identified as their health problems. In general, malaria, respiratory tract infections, and diarrhoeal diseases were perceived as the most severe illnesses that affect people (Table 3).

herbs and if the child does not recover, he/she is then sent to the clinic/hospital. Pregnant women however do not go through these stages but use the clinic/hospital as the first point of call. This is because community members know that certain medications including herbs can affect the unborn child. In the case of the aged, clinics/hospital are hardly used, instead they are treated at home using herbal concoctions. This is what a man in a focus group discussion had to say about treatment options for the aged:

Note: multiple answers and so the percentages do not add up to 100 per cent.

When the aged are severely sick, they have to use the traditional medicine before going to the hospital if they do not recover. This is because they are already at the verge of death. So to waste your time and go there (hospital) is a problem. (FGD, men's group at Gia).

Table 3

Illnesses perceived by community members as the most severe in the Kassena-Nankana district

Characteristics	Number	Per cent	95% CI
Malaria/fever	694	70.5	(67.6, 73.4)
ARI	80	8.1	(6.5, 10.0)
Diarrhoea	36	3.7	(2.6, 5.0)
Other	174	17.7	(15.3, 20.2)

Treatment of these diseases takes various forms including boiling and drinking of herbs, pouring of libations, and consulting soothsayers. Members of the community also buy drugs from pharmacies/

Another man had this to say:

..... we prefer to stay at home with the old men because their generation is almost finishing. Why would you send him (to hospital) to waste money that is why we leave them in the house when they are ill (FGD, men's group Pungu).

Generally, most health problems are reported to trained health personnel (hospital, health centre, clinic or community health compounds). Very few community members will do nothing about their ailments (Table 4).

carry system and recounted the frustrations associated with it in the health service delivery system with 44 per cent being aware of the government's plan to replace the system with a health insurance scheme.

Table 4
Action taken when members of the household are ill

Characteristics	Number	Per cent	95% CI
Action taken			
Take them to hospital/clinics/CHOs	503	51.1	(47.9, 54.3)
Buy drugs from pharmacies/dispensaries	256	26.0	(23.3, 28.9)
Consult both herbalist & hosp/clinic	127	12.9	(10.9, 15.2)
Consult the herbalist/traditional treatment	89	9.0	(7.3, 11.0)
Take self treatment	6	0.6	(0.2, 1.3)
Do nothing	3	0.3	(0.1, 0.8)

Community knowledge of the current cash and carry system and the proposed mutual health insurance scheme

Most community members (86 per cent) agreed with the statement that people are often taken ill at the time they do not have money. This acknowledgement is indicative of the fact that people will then have to prepare adequately for illnesses, which are inevitable. In support of the need to have security against unforeseen health problems, a recently convalesced person in an indepth interview, had this to say in response to a statement thus "There is a saying that people are often taken ill at the time they don't have money, what are your views about this?"

That is true, that is a true statement, because I will take my own case, my recent sickness. It came at the time when I didn't have money at all. I went (to the hospital) the first time with BP and I could not afford the amount I was to pay for the drugs. So I went and borrowed some money, then at the end of the month I paid, only to realize later on that I was to go in for some test that cost me ₦35,000. Then after that I went in for more drugs that cost me ₦108,000. So it was not easy for me; the sickness really came at a time I was in need (*IDI, 42 years old woman in urban area*).

Women in a focus group discussion buttressed the issue thus:

We have agreed that this is true. You normally fall sick when you have no money. It is true! (FGD Women at Nangalikinia/Wuru).

Ninety-three percent of household heads interviewed had knowledge of the current cash and

An overwhelming 93 per cent (915/985) of the respondents expressed interest in the health insurance scheme and are willing to contribute to such a scheme (Table 5). While 3.5 per cent (34/985) of respondents were undecided on whether or not to contribute to such a scheme, only 3.7 per cent (46/985) expressed disinterest. Eighty-nine percent of those interested in the scheme will like to contribute cash with 3.7 per cent and 3.5 per cent respectively preferring to contribute in kind or cash and kind.

Interest in the health insurance scheme was expressed in the qualitative study as well. This interest was expressed as follows:

We will want it so, because, when I hear that someone is sick and he/she dies the following day, I won't be happy may be we could have helped save that person's life. I think it will help us because when someone falls sick and there is money, even when he/she is in a critical situation whether that person is your relative or not, you will be able to send the person to the hospital which is better than allowing the person to die (FGD Women's group, urban area).

A few people were however of the view that putting money down for illnesses which have not yet come was not appropriate as that could in itself invite more illnesses. Generally, however, community members were interested in pooling resources together for the establishment of a mutual health insurance scheme.

As to the most convenient way of paying to

Table 5
Knowledge of current cash and carry system and its replacement

Characteristics	Number	Percent	95% CI
Know of cash and carry			
Yes	914	92.8	(91.0, 94.3)
No	71	7.2	(5.7, 9.0)
Heard of the gov't prog. to replace cash and carry			
Yes	431	43.8	(40.6, 46.9)
No	554	56.2	(53.1, 59.5)
Interested in NHIS			
Yes	915	92.9	(91.1, 94.0)
No	36	3.7	(2.6, 5.0)
Not decided	34	3.5	(2.2, 4.8)

seek treatment, over 69 per cent of the respondents indicated cash payments on installment basis and 26 per cent cash upfront (Figure 2). Since most community members are not salaried workers, they usually sell foodstuffs like millet, groundnuts, and rice to get money for the various forms of contributions that they make in their various communities. Some also sell domestic animals like fowls, goats, sheep, and cattle to meet their health and other needs. Some also undertake other forms of labour like working on the farms of others, to get money to pay for health

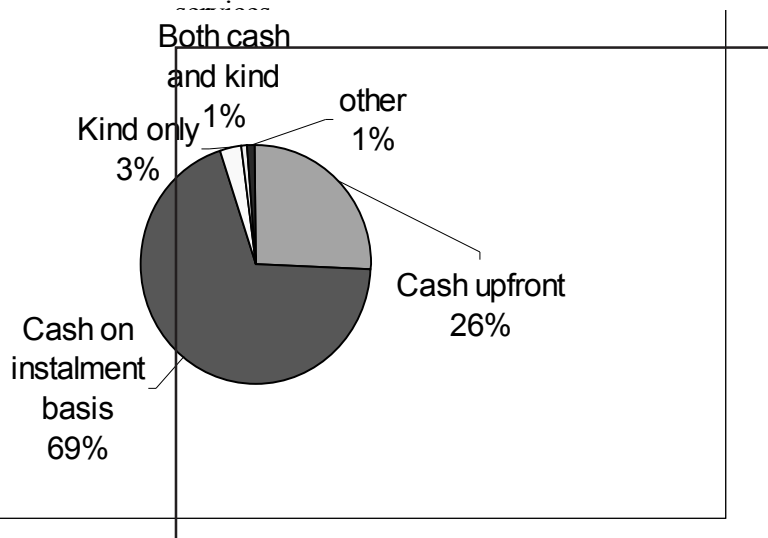


Figure 2: Most convenient way of paying to seek treatment

Although, most respondents indicated that they were willing and ready to contribute towards a mutual health insurance scheme, they also said that it would be more convenient for them to pay to seek treatment if the cost of health care were reduced to

make it more affordable. Their main problem with the cash and carry system as identified was how patients were forced to pay when they were sick and that treatment should be provided first before money is demanded. The sick sent to the hospital were often left unattended to whilst money was demanded. The most worrying situation was when one was seriously sick and the relatives were asked to go and collect cards before the sick was attended to.

Another worrying situation was when one queues at the Outpatient department and others (the well dressed, the educated and the rich) come and jump the queue. Community members now expect more fairness after everybody had contributed towards a scheme. They also expect some respect and dignity from health personnel. And that, drugs, should be available at the health facility and not to be given prescriptions to go to drugstores to procure them. People also believe that drugs from the health facilities were sent to drugstores for sale to patients. Some community members are of the view that health personnel inflate the cost of treatment for them to pay and that after the doctor had charged, the nurses also add some more.

Most respondents (45.4 per cent) are willing to contribute on a monthly basis towards a mutual health insurance scheme. However, a significant proportion of the respondents who are mostly farmers will prefer to make their contributions after harvest (34.6 per cent), during harvest (13.9 per cent), with just a few of them (0.3 per cent) preferring to pay before harvest.

Perception of health workers in the KND of a mutual health insurance scheme

All the health staff interviewed had knowledge of the government's policy to replace the cash and carry system currently in operation at the health facilities. This knowledge was expressed as follows:

Oh, I have heard about the government's programme to replace the cash and carry system several times. (IDI with health worker)

Another health worker also had this to say:

Yes, that is the health insurance scheme. Yes I have heard of it. (IDI with health worker).

Health workers interviewed however were not sure as to how the system was going to operate.

I don't know whether it is going to be an annual affair (payment of premium) or is just going to be a continuous thing. If you pay once, you pay once. That is what I'm thinking. Yeah. (IDI with health worker).

Another health worker explained thus:

What I know about it is individual contribution or family contributions. In that case, even as I am a mother like this with six children, if I contribute for myself alone without contributing for my children, they will not benefit from that service. (IDI with health worker).

Whilst there was no consensus among health workers on the most convenient way of paying for the cost of treatment of ailments, they agreed with the adage that people are often taken ill at a time they don't have money. They therefore saw the health insurance scheme as a way of meeting such challenges:

This is what one health worker had to say:

"...that is going to help people who do not have the money if that kind of system exists...I think it will help everybody. Yes!" (IDI with health worker).

The health workers did not only see the health insurance scheme as a way of meeting the challenges encountered in accessing health services but they were also interested in contributing to such a scheme:

I will very much be interested in a programme to help one another meet the cost of health (IDI with health worker)

Another health worker had this to say:

Yes, I will be interested in helping to meet cost of health care because it could help alleviate pain and prevent deaths. You can pay for your relatives to benefit. (IDI with health worker).

On the role of the health worker in the implementation of the health insurance scheme, the health workers were unanimous in their responses:

As a health worker, I have to educate the people on this system, its benefits to the individual as well as the country. (IDI with health worker).

The health workers also felt that there should be exemptions because there are vulnerable groups in the society who can't afford even a meal. They also opined that even if the exemptions are going to be withdrawn, it should be gradual because the people are used to it. They also wanted the exemptions to take the same form as the current system. As to how the quality of health services will be improved, this is what they had to say:

We hope there will be everything to work with like drugs, equipment and many other things just like in the olden days. (IDI with health worker)

We will get more money to run the clinics and buy drugs. People will no more refuse to attend hospital because of lack of money. (IDI with health worker).

Traditional risk sharing schemes

Results from the survey indicate that more than 60 per cent of respondents belong to one group or the other. As to the type of group, respondents mentioned farmers groups, work-based groups, and

church groups, among others. Making of contributions in the form of cash is very paramount in these groups as 98 per cent of respondents who belonged to a group indicated that they make mostly weekly contributions ranging from less than ₦500 to over ₦3,000. When asked what the contributions were meant for, over 50 per cent said they make such contributions to take care of their general needs. Surprisingly, people would rather make contributions for general needs or as loans for trading and farming as opposed to taking care of illnesses (See Appendix 2).

From the FGDs, this also came out clearly that there are already existing organisations like the farmers groups, women's "ananoore" groups and church groups among others in the district. Many of these groups make contributions, which in most cases are used for funerals and general needs. The following elucidates the aims of the groupings.

"...we normally help each other, we help to farm for each other and also make contribution so that in times of difficulty, we use it to help ourselves." (FGD with Men's group, Nyangnia/Chiana)

"...we do contribute money, when there is funeral in somebody's house we normally make some contributions to keep so that we take part of that money to cook food for strangers who come to the funeral, that is what I am talking about." (FGD with Women's group in Nangalkinia/Wuru)

Those communities, which do not have informal risk sharing groups indicated that they were considering establishing some.

Questions were also asked on the forms of contribution and issues or problems associated with them since these are often contentious. It came out that people are comfortable paying cash. Regarding the issues of handling of the contributions, this is what they had to say:

There is no misunderstanding in the handling of the money because, we have a bank account and the money is also deposited in a bank. There is transparency in our contributions because everything is recorded by the secretary, and we know

how much we have at any point in time. (FGD Women group, Atosale/Kandiga).

We trust each other and the one who handles the money is trustworthy. In a month we meet twice to make the contributions and we have somebody who keeps the money and someone who writes names, so it is going well. (FGD Women group, Nangalkinia/Wuru).

Maximum contribution per year

Members of the community were willing and prepared to contribute toward a mutual health insurance scheme. More especially if the amount to be contributed is not too much for them to pay. Also the timing of membership contributions was very important to them as it is not at all times that money is available to them. It was therefore suggested that contributions could be better made at a time that there is food thus during the harvest time since they will have food to eat and some to sell and have some money to contribute. As expected, members were ready to make a wide range of contributions, ranging from one thousand (₦1,000) cedis per month, amounting to twelve thousand (₦12,000) cedis per year to two hundred thousand (₦200,000) cedis per year. In the view of some respondents, contributions should be based on the ability of the people.

Most respondents were willing to contribute amounts ranging from ₦2,000 – ₦24,000 per year as premium for health care for themselves. It is important however, to note that over 26 per cent of respondents mentioned amounts less than ₦2,000 per year as premium for health care for themselves. For children under five years, 18 per cent indicated that they would contribute nothing as premium towards their health care. For those respondents who were ready to pay some premium towards the health care of children under five years, they indicated their readiness to contribute amounts ranging from ₦1,000 – ₦12,000 per year.

In the case of children aged five to 18 years, 34.4 per cent of the respondents were willing to contribute amounts less than ₦3,000 per year towards their health care. The rest of the respondents were willing to contribute amounts ranging from ₦3,000 – ₦20,000 per year towards their health care.

On the average, community members were ready to contribute the same amount towards the

health care of the aged and pregnant women. However, whilst everybody was willing to contribute towards the health care of pregnant women, 16.2 per cent were not willing to contribute anything for the care of the aged. For those who often fall ill, respondents were willing to contribute amounts ranging from less than ₦2,000 to ₦24,000 per year to take care of them.

Most people would like the contributions to cover all ailments and services from OPD cards to admissions and surgery. This they thought will help avoid the embarrassments they go through when they send relatives to the hospital. They will also be ready to contribute not only for themselves and relatives but also for other poor people. As depicted in Figure 3 below, of the respondents who indicated interest in contributing to a mutual health insurance scheme, 65 per cent will like their contributions to cover both in and out-patient care; 33 per cent will contribute towards in-patient care only and 2 per cent for out-patient care only.



Figure 3: Services for which contributions will be made

Exemptions under the mutual health insurance scheme

Respondents would want certain categories of people to be exempted under the scheme. While 66 per cent would like the aged to be exempted, 53 per cent would like children under five years to be exempted. The third category of persons who should be exempted was the disabled and this was supported by about 30 per cent of the respondents (Fig. 4).

Factors likely to influence willingness to contribute to the scheme

Age, area of residence, religion, education, occupation, difficulty paying to seek treatment, and knowledge of the cash-and-carry system came out as important predictors of willingness to contribute to the scheme. Other predictors were whether any member of household belongs to a group, the type of services that respondents were willing to contribute for and who to keep and manage the funds. Appendix 3 shows the distribution of the variables against willingness to contribute to the scheme.

Logistic regression of the demand for mutual health insurance on the predictors outlined earlier showed that there was a 29 per cent decrease, 95 per cent CI (17, 40), in willingness to contribute to a mutual health insurance for every 10-year increase in age. Rural residents were 3.7 times, 95 per cent CI (2.1, 6.4), more likely to contribute to the scheme than urban residents. Christians were also more likely (OR 4.1; 95 per cent CI (1.04, 16.5)) to accept the scheme than those in other

* Responses do not add to 100% -multiple response question

Figure 4: Percentage of vulnerable groups to be exempted under the scheme

religions. Muslims also tend to favour the scheme but they were not significantly different from those in other religions (Appendix 4).

In terms of educational level, respondents who have had primary education were 2.6 times, 95 per cent CI (1.02, 6.9), more likely to accept the scheme than the illiterate. However, those with higher education were 0.57 times, 95 per cent CI (0.16, 0.78), less likely to accept the scheme than the illiterate. Those who have had middle school or JSS education were not different from those who have not gone to school in terms of acceptance of the scheme. Farmers, OR 2.4; 95 per cent CI (1.03, 5.7), tend to favour acceptance of the scheme

compared to the unemployed. There was no difference in acceptance of the scheme between the employed and the unemployed (Appendix 4). Respondents who have difficulty paying for treatment of a member of the household will also like to contribute to the scheme, OR 3.6; 95 per cent CI (1.7, 7.8), and so are those who know about the cash and carry system, OR 2.3; 95 per cent CI (1.14, 4.8). As to which services respondents will like to contribute to, respondents will contribute to inpatient care, OR 6.3; 95 per cent CI (2.5, 15.7) than to any other services (Appendix 4)

Footnotes

1 Skin rashes, bodily pains, convulsions, waist pains, jaundice, body sores, elephantiasis, hypertension, tuberculosis, anaemia, stomach pains, gonorrhoea, toothache, anthrax, obstructed labour, and mental problems

Chapter Four

DISCUSSION

Changes in health care policies are often implemented without prior knowledge of how the populace perceived those policies, often leading to untold hardship on the people and failures in the implementation of the policies. The current study was therefore conducted to document the perception of people of the KND of the government policy of replacing the cash and carry system with a mutual health insurance scheme.

As a rural community, the economy is largely agro-based (Binka F. N. and Adongo P. 1997), with most people engaged in subsistence farming of cereals and legumes with a large number of people still practicing traditional religion. Traditional or herbal medicines still play an important part in the overall health delivery system in the district especially for the aged. Due to the numerous inconveniences the people go through when seeking health care at the public health facilities in the district, people still unwillingly send the aged to these facilities even though they are exempted from paying for health care under the cash and carry system. It was, however, gratifying that pregnant women were always sent to the hospital when ill. This was not because of the free medical care for the pregnant women, but for the fact that the people know that the best place to get care for them was the hospital as certain drugs including herbal preparations they believe, could harm the unborn child (Owusu-Agyei *et al.* 1999).

Illnesses perceived by the community members as being the most common in the district were in consonance with (unpublished) data from the district hospital which puts malaria, ARI and diarrhoea diseases as the top most worrying health problems. The high prevalence of malaria in the district may be related to the extensive Tono irrigation scheme and the more than 90 dugouts and dams in the district that provide water for watering the fields and livestock during the dry season. Though not surprising but worrisome was the problem of diarrhoeal diseases as over 90 per cent of households do not use toilet facilities even in

communities where they are present but defecate freely in the open fields.

More than 85 per cent of respondents asserted that, people are often taken ill at the time when they have no money. Against this background, and the fact that there were several established traditional risk sharing schemes in the communities, more than 90 per cent of respondents expressed their willingness to contribute to the mutual health insurance scheme. Although willingness is not often a reflection of the actual, it gives an indication of a successful health insurance scheme in the district if adequate education precedes its introduction and the management of the new scheme is transparent since people already have established informal risk sharing schemes. The new scheme could also use the already existing informal risk sharing schemes as building blocks to establish a very successful health insurance system in the district. As indicated by Asenso-Okyere *et al.* (1997), mutual insurance schemes are perceived as providing insurance coverage for rural communities, who are unlikely to benefit immediately from either a social or private health insurance scheme. However, such schemes would thrive well if there are already existing informal risk sharing schemes.

Cash payment, was the preferred form of contribution to the impending scheme because it is more convenient. However, few people believed that contributing money in preparation for ill health yet to come was not acceptable as that in itself could invite more illnesses. This believe notwithstanding, others expressed their interest in the scheme thus:

“it is better to contribute for an ill person to seek care than to allow the individual to die and you contribute for the funeral”.

This expression could be a beginning of a changing attitude towards the sick and a positive sign towards a mutual health insurance.

The issue of high cost and demand for payment before health care is provided that is associated with the cash and carry system came up strongly in the qualitative survey. According to

respondents, patients should be attended to before payment is demanded. Clearly, the mutual health insurance scheme can meet this need of the people as it dissociates the time of payment from the use of services (Sauerborn *et al.* 1996). Other concerns of the people, which need to be addressed under the new health care financing scheme, are the long waiting time especially at the OPD, the apparent discrimination and the unavailability of drugs at the public health facilities.

The timing of premium collection was found to be very important for the success of the scheme. As expected, most people would like to pay their premiums after the harvest season and not at a time when they have very little to eat and nothing to sell. The capabilities of the people to contribute to the scheme is reflected in the wide range of premiums that they are ready to pay based upon their individual levels of wealth ranging from amounts as low as ₵2,000 to as high of ₵200,000. An appreciable number (26 per cent) of respondents cannot even contribute ₵2,000 per annum and this is a reflection of the high poverty levels in northern Ghana where 88% of the people of the Upper East region live below the poverty line of US\$1 per day (Government of Ghana 2003).

Even though premiums suggested by household heads are on the average lower than the ₵72,000 prescribed by government, they would like their premiums to take care of all health services including in- and out-patient care. Notwithstanding the fact that most respondents had ever paid amounts much higher than their suggested premiums for health care or cost of prescribed drugs, they will not be able to pay high premiums. This is because such people often had to sell properties including sheep and cattle, which some members of the community do not have.

As in the case of the user fees, explicit policies should also be made to exempt persons who do not have the necessary resources to pay their premiums. Indeed the problem of who to exempt or who is a vulnerable person has always remained a major obstacle and most of the times the category of exempted persons is brought down from the top for implementation. This study has identified categories of people such as the aged, children under five, and the disabled, who members of the community think should be exempted from paying premiums.

Age and education were found to be associated with the willingness of a person to join a mutual health insurance scheme. Younger household heads were more likely to be part of the scheme than the older ones and this was expected since older people would often seek traditional treatment. People with primary education were also more willing to contribute than those without formal education but those with higher education ironically are much less willing to contribute to the scheme. Since higher education may be indicative of better employment and higher income, such individuals may not see the need for any risk-sharing scheme like the impending mutual health insurance scheme. This revelation was supported by the fact that those in public services were less willing to contribute to the scheme. It is encouraging however, that people in the rural communities were very much willing to contribute to the scheme. Since the majority of people in the district live in the rural areas, there is a high potential for the scheme to succeed.

Health workers in the KND were well aware of the impending scheme and ready to contribute towards it. Though some did not fully understand how it was going to operate, they see the scheme as a solution to the challenges associated with the utilization of health care services under the current cash and carry system. They also believe that they are in a good position to provide advice and educate the community members about the impending mutual health insurance scheme. Just as the community members, health workers in the district were of the view that the aged and children under five years should be exempted from paying premium towards the health insurance scheme and that this category of people should continue to enjoy free medical care as pertains under the cash and carry system. They would also like the mentally challenged and pregnant women to be exempted.

Even though health workers support the impending mutual health insurance scheme, they lamented the deplorable physical conditions at the health facilities and poor conditions of services at the moment. They therefore suggested that, for the health insurance scheme to achieve its aim of improving accessibility and utilisation especially among the poor, these problems must be addressed.

Chapter Five

CONCLUSIONS AND RECOMMENDATIONS

Evidently, there is a positive perception towards the health insurance scheme. Most people are generally excited about the scheme and therefore willing to belong and contribute to it. Community members will however like issues of the long waiting time at the hospital, the discriminatory, disrespectful, unsympathetic, arrogance and insensitive attitude of some health staff to be addressed if the scheme is to succeed. They also expect transparency and honesty from managers of the scheme.

For successful implementation of a mutual health insurance scheme in the district considerations must be given to the already existing informal risk sharing schemes. It would be important to identify these organizations in the community and use them as building blocks for the start of the scheme. This strategy could ease cost of premium collection since these groups are already organised.

The timing of collection of premiums should be after harvest, which of course is the time that people could sell some of their farm produce and be able to make such contributions. Room would need to be made for the acceptance of payment by installment since most people indicated they could not pay their premiums all at once. Scheme managers would need to plan the scheme year to start after the harvest of the main crops. It would also be important to take a second look at the national premium of ₦72,000 per annum per person, given that most people may not be able to pay such an amount as a result of poverty.

Exemption of those who may not be able to pay the premium, the aged, children under five, pregnant women, and the disabled, is very paramount. Coincidentally, the categories of people suggested by the community members are those who are being exempted under the cash and carry system. Strict accountability and other stringent measures

would need to be put in place to avoid the abuse of the exemptions system.

There should be mass education and community sensitisation on the benefits of the health insurance scheme. This education should not target only the illiterate population, but the educated and public servants as well. Given that most people are interested in the mutual health insurance scheme but do not have money to pay the premium, it is suggested that income-generating activities (e.g. small irrigation schemes for dry season farming) be set up to enable people earn income and contribute to the scheme. It is also suggested that health workers especially the nurses be oriented to change their attitudes and be friendly towards patients and their caretakers as this may help improve utilisation of the health services under the scheme.

Lack of attention for patients and their caretakers may be as a result of the shortage of health staff especially nurses stemming from migration to the developed countries. Long-term measures such as increasing intakes into the training institutions and refining the additional duty hours allowance concept and a general improvement in the economy may help reduce the rate of brain drain in the health sector. The availability of drugs is yet another problem to be tackled for the success of the scheme. Perhaps, a committed effort to periodically restock drugs would help reduce this problem.

In summary, there is a positive perception towards the health insurance scheme in the district and health workers are also enthusiastic about it. It is however important to note that improvement in the service conditions of health staff including the improvement in the work environment to enable them deliver quality health service is paramount. This is because accountability will not only be demanded from scheme managers but health workers as well.

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APPENDICES

Appendix 1.1

Demographic and socio-economic characteristics of respondents

Characteristics	Number	Percentage	95% CI
Ethnicity			
Nankam	432	43.9	40.7, 47.0
Kassem	512	52.0	48.8, 51.0
Builsa	21	2.1	1.3, 3.2
Other	20	2.0	1.2, 3.1
Marital status			
Married	719	73.0	70.1, 75.7
Never married	46	4.7	3.4, 6.2
Divorced	34	3.5	2.4, 4.8
Widowed	165	16.8	14.5, 19.0
Separated	21	2.1	1.3, 3.2
Education			
None	620	62.9	59.8, 66.0
Primary	180	18.3	15.9, 20.8
Middle/JSS	97	9.9	8.1, 11.9
Sec/Voc/SSS	53	5.4	4.1, 7.0
Post Sec	35	3.6	2.5, 4.9
Occupation			
Subsistence farmer	719	73.0	70.1, 75.7
Large-scale farmer	6	0.6	0.2, 1.3
Tradesman/Artisan	130	13.2	11.1, 15.5
Civil servant/Public servant	69	7.0	5.5, 8.8
At school	5	0.5	0.2, 1.2
Too old to work	15	1.5	0.9, 2.5
Unemployed	24	2.4	1.6, 3.6
Other	17	1.7	1.0, 2.7
Religion			
Traditional	589	59.8	56.7, 62.9
Christian	349	35.4	32.4, 38.5
Muslim	36	3.7	2.5, 5.0
Other	11	1.1	0.6, 2.0
Household size			
1–2	252	25.6	22.8, 28.4
3–4	153	15.5	13.3, 18.0
5–6	303	30.8	27.9, 33.7
6–7	113	11.5	9.5, 13.6
7+	164	16.7	14.4, 19.1
<i>Median (Lower quartile, upper quartile)</i>	<i>5</i>		<i>(3, 7)</i>
Cooking/dining utensils used in household			
Earth bowls	75	7.6	6.0, 9.5
Aluminium pans	903	91.7	89.8, 93.3
Other	7	0.7	0.3, 1.5
Common toilet used by household			
Free range	895	90.9	88.9, 92.5
Pit latrine	26	2.6	1.7, 3.8
KVIP	50	5.1	3.8, 6.6
WC	14	1.4	0.8, 3.4
Common source of drinking water by household			
Pipe-borne	73	7.4	5.9, 9.2
Bore-hole	732	74.3	71.5, 77.1
Well water	146	14.8	12.7, 17.2
Dam/dugout	18	1.8	1.1, 2.9
Stream	15	1.5	0.9, 2.5
Household wealth (€ million)			
0–1	130	13.2	11.1, 15.5
>1–3	279	28.3	25.5, 31.3
>3–5	167	17.0	14.7, 19.4
>5–10	225	22.8	20.3, 25.6
>10	184	18.7	16.3, 21.3

Appendix 2

Activities of traditional risk sharing associations/group

Characteristics	Number	Percent	95% CI
Member of a group or association			
Yes	614	62.3	59.2, 65.4
No	371	37.7	34.6, 40.8
Type of group/association*			
Susu club	27	4.4	2.9, 6.9
Cooperative credit union	109	17.8	14.8, 21.0
Work-based group	16	2.6	1.5, 4.2
Farmers groups	128	20.9	17.7, 24.3
Trading group	97	15.8	13.9, 18.9
Religious group	38	6.2	4.4, 8.4
Other	255	41.5	37.6, 45.5
Any form of contributions			
Yes	601	97.9	96.4, 98.9
No	-13	2.1	1.1, 4.0
Form of contributions			
Cash	584	97.2	95.5, 98.3
Kind	4	0.7	0.2, 17.0
Cash and kind	13	2.1	1.2, 3.7
Amount (¢)			
<=1000	271	27.5	24.7, 30.4
>1000–2000	192	19.5	17.1, 22.1
>2000–3000	15	1.5	0.01, 2.5
>3001	507	51.5	48.3, 54.6
Frequency of contribution			
Daily	6	1.0	0.4, 2.2
Market days	30	5.0	3.4, 7.1
Weekly	421	70.2	66.3, 73.8
Monthly	2	0.3	0.0, 1.2
Semi-annually	45	7.5	5.5, 10.0
Other	96	16	13.2, 19.2
Purpose for contribution			
Take care of minor illness	3	0.5	0.1, 1.5
Take care of major illness	5	0.8	0.3, 1.9
Help in time of general need	310	51.8	45.7, 55.8
Loan for trading	135	22.5	19.3, 26.1
Loan for farming	81	13.5	10.9, 16.5
Other	65	10.9	8.5, 13.6

Appendix 3

Willingness to contribute to a mutual health insurance scheme against factors likely to influence

Characteristic	Willingness to contribute to a mutual health insurance scheme			
	Yes		No	
	Number	Percent	Number	Percent
Sex				
Female	265	91.7	26	8.3
Male	650	93.7	44	6.3
Age group				
15–29	2	100	0	0.0
30–39	197	95.6	9	4.4
40–49	215	93.5	15	6.5
50–59	196	92.4	16	7.6
60+	175	86.6	27	13.4
Ethnicity				
Nankana	409	94.7	23	5.3
Kassena	470	91.8	42	8.2
Builsa	20	95.2	1	4.8
Other	16	80.0	4	20.0
Marital status				
Married	73	93.6	46	6.4
Never married	45	97.8	1	2.2
Divorced	30	88.2	4	11.8
Widowed	147	89.1	18	19.9
Separated	20	95.2	1	4.8
Education				
None	577	93.1	43	6.9
Primary	175	97.2	5	2.8
Middle/JSS	88	90.7	8	9.3
Sec/Voc/SSS	48	90.6	5	9.4
Post Sec	27	77.1	8	33.9
Religion				
Traditional	557	94.6	32	5.4
Christian	320	91.7	29	8.3
Muslim	30	83.3	6	16.7
Other	8	72.7	3	27.3
Occupation				
Subsistence farmer	683	95.0	36	5.0
Large-scale farmer	5	83.3	1	16.7
Tradesman/Artisan	119	91.5	11	8.5
Civil servant/Public servant	54	78.3	15	21.7
At school	5	100.0	0	0.0
Too old to work	12	80.0	3	20.0
Unemployed	20	83.3	4	16.7
Other	17	100.0	0	0.0
Household size				
1-3	227	90.1	25	9.9
4	144	94.1	9	5.9
5-6	287	94.7	15	5.3
7	106	93.8	7	6.2
8+	151	92.1	13	7.9
Difficulty paying for health service				
No difficulty	36	80.0	9	20.0
Less difficulty	87	91.6	8	8.4
Difficulty	792	93.7	53	6.3
Heard of replacement of cash & carry				
Yes	402	93.3	29	6.7
No	513	92.6	41	7.4
Knowledge of cash and carry system				
Yes	854	93.4	60	6.6
No	61	85.9	10	14.1
Management of health insurance fund				
Community members	282	99.7	1	0.3
Nearest health facility	116	98.3	2	1.7
Opinion leaders	14	100.0	0	0.0
Health insurance board	71	97.3	2	2.7
Government	334	100.0	0	0.0
Other	65	98.5	1	1.5
Don't know	33	94.3	2	5.7

Appendix 4

Bivariate logistic regression of demand for the scheme on factors likely to have influence

Covariate/level	Odds Ratios	95% CI	P-value
Age	0.71	0.60, 0.83	<0.001
Household size	1.06	0.96, 1.17	0.23
Household wealth	1.00	0.83, 1.20	0.99
Location			
Rural	3.69	2.14, 6.37	<0.001
Urban	1.00	-	-
Gender Male	1.45	0.87, 2.40	0.15
Marital status Married	1.45	0.87, 2.43	0.16
Ethnicity			
Nankana	2.47	0.89, 6.89	0.08
Kassena	1.55	0.58, 4.17	0.38
Other	1.00	-	-
Religion			
Traditional	6.53	1.56, 25.79	0.007
Christian	4.14	1.04, 16.45	0.04
Islam	1.88	0.38, 9.20	0.44
Other	1.00	-	-
Education			
Primary	2.61	1.02, 6.69	0.046
Mid/JSS	0.73	0.34, 1.55	0.41
Higher	0.43	0.22, 0.84	0.013
None	1.00	-	-
Occupation			
Farmer	2.41	1.03, 5.66	0.043
Trader/artisan	1.40	0.52, 3.81	0.51
Civil/public servant	0.47	0.18, 1.24	0.13
Unemployed	1.00	-	-
Difficulty paying to seek treatment			
Yes	3.60	1.66, 7.82	0.001
No	1.00	-	-
Know of cash & carry			
Yes	2.33	1.14, 4.78	0.02
No	1.00	-	-
Heard Govt prog. to replace cash&carry			
Yes	1.11	0.68, 1.81	0.68
No	1.00	-	-
Who Pays for Health Care			
Individual	1.59	0.58, 4.33	0.36
Government	1.69	0.61, 4.69	0.31
Both	2.63	0.84, 8.29	0.10
Other	1.00	-	-
Any member of HH belongs to a group			
Yes	1.72	1.06, 2.81	0.03
No	1.00	-	-
Service willing to contribute to			
Inpatient	6.25	2.49, 15.68	<0.001
Other	1.00	-	-
Who to keep and manage the funds			
Community members	6.53	0.67, 63.34	0.11
Nearest Health facility	1.28	0.21, 7.79	0.79
Government			
<i>Perfectly predicts success</i>			
Other	1.00	-	-
Common illnesses suffered by household			
Malaria	0.85	0.40, 1.83	0.69
ARI	1.60	0.86, 1.83	0.14
Diarrhoea			
Other	1.33	0.82, 2.18	0.25
Who should be exempted under the health insurance scheme			
Paupers	16.66	2.30, 120.80	0.005
Widows	2.66	0.36, 19.75	0.34
Aged	18.13	8.57, 38.37	<0.001
Mental patients			
Disabled	15.78	3.84, 64.81	<0.001
Pregnant women	6.72	1.63, 27.72	0.008
Children Under five	21.63	7.82, 59.83	<0.001
Others	1.84	0.66, 5.18	0.25

Appendix 5.1
Questionnaire for community members

NAVRONGO HEALTH RESEARCH CENTRE
MUTUAL HEALTH INSURANCE SURVEY-**Household heads**
IDENTIFICATION
COMPOUND NAME/ID.:

NAME OF INTERVIEWEE: _____	NAME
HOUSEHOLD NUMBER	CMPNU
PERMANENT ID OF INTERVIEWEE	PERMID
DATE OF INTERVIEW	DAINT
FIELDWORKER'S CODE	FWCOD
FIELDSUPERVISOR'S CODE	FSCOD
RESULT OF INTERVIEW: COMPLETE	1 RESULT
INCOMPLETE	2

SECTION 1: Socio-economic and demographic characteristics of interviewee

1.1	How old are you (in completed years)? <input style="width: 40px;" type="text"/>	AGE
1.2	What is your ethnic background?	
	Nankam.....1	ETHNIC
	Kassem.....2	
	Bulsa.....3	
	Other (specify).....4	
1.3	What is your current marital status?	
	Married.....1	MASTCUR
	Never married.....2	
	Divorced.....3	
	Widowed.....4	
	Separated.....5	
	Other (specify).....6	
1.4	What is your educational level?	
	None.....1	EDUCAT
	Primary.....2	
	Mid/JSS.....3	
	Sec/Voc/SSS.....4	
	Post sec.....5	
1.5	What is your main occupation?	
	Subsistence farmer.....1	OCCUP
	Large scale farmer.....2	
	Trader/artisan.....3	
	Civil servant/Public servant.....4	
	At school.....5	
	Too old to work.....6	
	Unemployed.....7	
	Other (specify).....8	
	DK.....9	
1.6	What is your religion?	
	Traditional.....1	RELIG
	Christian.....2	
	Muslim.....3	
	Other (specify).....4	
1.7	How many people live in this household? <input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	HHSIZE
1.8	How many people in this household are within the following ages?	
Age	Number	
	Female	Male
0-4	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
	CH04F	CH04M
5-9	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
	CH59F	CH59M
10-24	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
	CH1024F	CH1024M
25-49	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
	CH2549F	CH2549M
50-69	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
	CH5069F	CH5069M
70+	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>	<input style="width: 20px;" type="text"/> <input style="width: 20px;" type="text"/>
	CH70F	CH70FM

SECTION 2
Farm Produce

In the last farming season how much of the following farm produce did you get?

Item	How many bowls did you get?	How much did that cost in the market	Did you receive any in Kind Yes...1 No...2	How much will what you received in Kind cost?	Total	
2.1 Early millet(nara/chara)						EMILL
2.2 Late millet (zea/mimpona)						LMILL
2.3 Guinea corn kemoliga/kadaga)						GUNC
2.4 Rice						RICE
2.5 Groundnuts						GROU
2.6 Beans						BEAN
2.7 Maize/corn						MAIZ
2.8 Bambara beans						BBEA
2.9 Potatoes						POTA
Othe(specify)						OTH
Grand Total						GTOT

SECTION 3
Household baseline survey
State of housing (Observe)

3.1 Does this household have a modern design (ie zinc roofing excluding animal pond)?	Yes.....1 No.....2	MODESIGN
---	-----------------------	----------

Household durable (goods & assets): Does any member of your household own the following items functioning (3.7 to 3.17)?(Code 00 if N)

Item	Y/N	Number if Y	
3.2 Cows			COWS
3.3 Sheep			SHEEP
3.4 Goats			GOATS
3.5 Pigs			PIGS
3.6 Fowls			FOWLS
3.7 Motor vehicle (cars, etc.)			MOTVEH
3.8 Bicycles			BICYCLE
3.9 Electric stove			ELSTOVE
3.10 Gas stove			GASTOVE
3.11 Fridge			FRIDGE
3.12 TV			TV
3.13 Sewing machine			SEWMAC
3.14 Beds			BED
3.15 Coalpots/kerosene stoves			CKELAMP
3.16 Traditional lamp			TRALAMP
3.17 Kerosene lamp			KERLAMP
3.18 What utensils are frequently used in this household?		Earthbowls.....1 Aluminum pans.....2 Other (specify).....3 DK.....9	UTENSILS
3.19 What is the common toilet facility used by this household?		Free range.....1 Pitlatrine.....2 KVIP.....3 W.C.....4 Other (specify).....5	TOILET
3.20 What is the common source of drinking water for this household?		Pipe borne water1 Bore-hole.....2 Well water.....3 Dam/dugout.....4 Stream.....5 Other(specify).....6	WATER

SECTION 4

Morbidity and health seeking behaviour

4.1	What are the common illnesses that your household suffers from? (Circle all mentioned)	Malaria/fever 1	COMAL
		Diarrhea..... 2	
		ARI..... 3	
		Other (specify)_____ 4	
4.2	Which of the illness mentioned is most severe in this household?	Malaria/fever..... 1	MOSTSEV
		Diarrhoea..... 2	
		ARI..... 3	
		Other (specify)..... 4	
4.3	What do you do when members of your household are ill?	Take them to hospital/clinic/CHOs..... 1	DOMAL
		Consult the Herbalist/Traditional treatment..... 2	4.6
		Consult both Herbalist and Hosp/clinic..... 3	
		Take self treatment..... 4	4.4
		Do Nothing..... 5	4.5
		Drug store..... 6	
4.4	If answer to Q4.3 is code 4 why did you take self-treatment?	Illness not severe..... 1	WHYSELFT
		Health facility is far..... 2	
		No money..... 3	
		Other (specify)..... 4	
		NA..... 8	
4.5	If 4.3 is option 5, why do you do nothing?	Illness not severe..... 1	NOTHING
		No money..... 2	
		Far from Health facility..... 3	
		Other (specify)..... 4	
		NA..... 8	
4.6	How often do people in this household visit health facility in a year?	Daily..... 1	OFTVISIT
		Monthly..... 2	
		Quarterly..... 3	
		Semi-annually..... 4	
		Annually..... 5	
		None..... 6	
		Other (specify)..... 7	
4.7	Did you or any member of your household fall ill within the past one month?	Yes..... 1	FALLILL
		No..... 2	5.1
4.8	How many of your household members fell ill within the past one month?	Number	
		NA..... 88	
		DK..... 99	MANYILL
No	Questions and filters	Person 1	Person 2
		Name: _____	Name: _____
4.9	How many times?	Q4.91	Q4.92
		Q4.93	
		1-3..... 1	1-3..... 1
		4-6..... 2	4-6..... 2
		7-10..... 3	7-10..... 3
		>10..... 4	>10..... 4
		NA..... 8	NA..... 8
		DK..... 9	DK..... 9
4.10	What illnesses did he/she suffer from?	Q4.101	Q4.102
		Q4.103	
		Malaria/fever..... 1	Malaria/fever..... 1
		Diarrhea..... 2	Diarrhea..... 2
		ARI..... 3	ARI..... 3
		Other (specify)_ 4	Other (specify)_ 4
		NA..... 8	NA..... 8
4.11	Did the illness affect the person's work output or normal activity?	Q4.111	Q4.112
		Q4.113	
		Yes..... 1	Yes..... 1
		No..... 2	No..... 2
		NA..... 8	NA..... 8
4.12	How many days did the illness make the person not to work or go about his/her normal activity?	Q4.121	Q4.122
		Q4.123	
		1-3..... 1	1-3..... 1
		4-6..... 2	4-6..... 2
		7-10..... 3	7-10..... 3
		>10..... 4	>10..... 4
		NA..... 8	NA..... 8

SECTION 5

Treatment cost and expenditures

5.1	Do you have difficulty paying to seek treatment for you or any member of your household?	No difficulty.....	1	DIFFICULT
		Less difficulty.....	2	
		Difficulty.....	3	
5.2	In your opinion, what is the most convenient way of paying to seek treatment?	Cash upfront.....	1	CONVWAY
		Cash on installment bases.....	2	
		Kind only.....	3	
		Both cash and Kind.....	4	
		Other (specify)_____	5	
5.3	If answer to Q 5.2 is code 3 and 4 what form should the kind payment take?	Foodstuff.....	1	FOPAYT
		Cash crops.....	2	
		Birds and animals.....	3	
		Other (specify).....	4	
		NA.....	8	
5.4	Who in your opinion should pay for healthcare?	individual.....	1	OPINION
		Government.....	2	
		The The Individual and Government.....	3	
		Employers.....	4	
		Salary Workers.....	5	
		NGOs.....	6	
		Other (specify)_____	7	

SECTION 6

Risk-sharing under Mutual health insurance

6.1	Do you or any member of your household belong to any social group or association?	Yes.....	1	GROUP 6.9
		No.....	2	
6.2	If Yes to 6.1, which group or association do you or your household member(s) belong? (Circle all mentioned)	Susu club.....	1	GROUPL
		Cooperative Credit Union.....	2	
		Work-based group.....	3	
		Farmers groups.....	4	
		Trading group.....	5	
		Religious group.....	6	
		Other (specify).....	7	
		NA.....	8	
6.3	Are there any forms of contribution in this group(s) or association?	Yes.....	1	FIGROU
		No.....	2	
		NA.....	8	
6.4	If Yes to 6.3, what form of contributions?	Cash.....	1	FOCO
		Kind.....	2	
		Both cash and kind.....	3	
		NA.....	8	
6.5	If 6.4 is code 2 or 3, what form of kind	Foodstuff.....	1	FOKI
		Cash crops.....	2	
		Birds and animals.....	3	
		Other (specify).....	4	
		NA.....	8	
6.6	If 6.4 is 1 or 3, how much contribution in a group or association?	¢ _____		MUCONT
6.7	How often do you contribute?	Daily.....	1	OFCONT 2
		Market days.....		
		Weekly.....	3	
		Monthly.....	4	
		Semi-annually.....	5	

	Annually.....	6	
	Other (specify).....	7	
	NA.....	8	
6.8	What are the contributions meant for?	Take care of minor illness.....	1 SAVINGS
		Take care of major illness.....	2
		Help in time of general need.....	3
		Loan for trading.....	4
		Loan for farming.....	5
		Other (specify).....	6
		NA.....	8
6.9	There is a saying that people are often taken ill at the time they do not have money. Do you agree with this?	Agree.....	1 SAYING
		Disagree.....	2
		DK.....	9
6.10	Do you know about the current cash and carry system in the health facilities?	Yes.....	1 KNCC
		No.....	2
6.11	Have you heard about the Government's programme to replace the cash and carry system?	Yes.....	1 GOVPRO
		No.....	2
6.12	Will you be interested in a system of contributing (pooling) resources together (in a common pool) and accessing it for treatment as and when you are ill. Will you prefer a system like this to the cash and carry system?	Yes.....	1 INTSYSTE
		No.....	2
		Not decided.....	3
			6.16
6.13	If you are to contribute, what form of contribution will you prefer?	Cash.....	1 FORCON
		Kind.....	2
		Cash and Kind.....	3
		NA.....	8
6.14	If answer to 6.12 is yes, how often are you willing and able to contribute?	Monthly.....	1 HOWOF
		Quarterly.....	2
		Semi-annually.....	3
		Annually.....	4
		Other (specify).....	5
		NA.....	8
6.15	What time of the year are you willing and able to contribute?	After harvest.....	1 TIMYEA
		Before harvest.....	2
		During harvest.....	3
		Monthly.....	4
		Other (specify).....	5
		NA.....	8
6.16	Who within your household will you pay more attention in terms of payment for treatment of illness? (Circle all mentioned)	All.....	1 PAYMO
		Myself.....	2
		Children U5.....	3
		Children of school going age.....	4
		All children.....	5
		Pregnant women.....	6
		The aged.....	7
		Those who often fall ill.....	8
		Other (specify).....	9
6.17	What is the amount you will be willing and able to contribute in cash per year to take care of you in the event that you fall ill?	¢.....	PAYYO
		NA.....	88
6.18	What is the amount you will be willing and able per year to contribute in cash to take care of a child U5 in the event that he/she falls ill?	¢.....	PAYCHI
		NA.....	88
6.19	What is the amount you will be willing and able to contribute in cash per year to take care of a above 5 yrs/child of school going age in the event that he/she falls ill?	¢.....	PAYSCH
		NA.....	88

FGD for community members**FOCUS GROUP DISCUSSION GUIDE FOR MUTUAL HEALTH INSURANCE STUDY-community****Morbidity and health seeking pattern**

1. What are the common illnesses in this community?
2. Which of these illnesses mentioned are most severe in this community?
3. Are there other illnesses that are severe but not common in this community?
4. Which of the common illnesses affect children/pregnant women /the aged/adolescents most in this community?
5. What do you do when people in this community fall sick?
6. Why do you prefer to go to (list in turns the answers mentioned in Q5) for treatment?
7. Do you do the same in the case of children/pregnant women/the aged/adolescents?
8. How often do you or your dependants visit the hospital or modern health facility for treatment in a year (let every body answer)?

Treatment cost

9. How much does it often cost you to treat (List the mentioned illnesses one after the other)?
10. Is the cost of treatment the same for children/pregnant women/the aged/adolescents (Elicit answers for severe and mild illnesses)
11. How do you meet the treatment costs?
12. What in your opinion is the most convenient way of paying for the cost of treatment of ailments?

Risk sharing/mutual support

13. There is a saying that people are often taken ill at the time they don't have money. What are your views about this?
14. (Ask if some of the respondents agree with the above statement) What do you think can be done to meet such challenges?
15. Do people in this community come together to contribute (be it in cash or otherwise) to help one another in times of need?
16. Do people in this community come together to contribute (be it in cash or otherwise) to help one another in times of ill health?
 - i. What form does the contribution take if any?
 - ii. How often is the contribution made?
 - iii. What conditions do these contributions cover?
17. What are the issues associated with contributing money in a pool
-Handling? Transparency? Trust? Etc
18. What are your experiences when you go to hospital or modern health facility to seek treatment?
19. Have you heard about the government's programme to replace the cash and carry system?
 - i. Explain?
 - ii. Taking the cost of health care these days into consideration, will you be interested in a programme of helping one another in meeting the cost of health care and why?
 - iii. If you are to contribute in any form (cash or kind) will you be interested?
20. If yes, what form will you like to contribute (cash or kind)?
-if kind, what form will it take?
21. Who are the people you will like to contribute for?
22. Will you or people in this community be willing and able to contribute money or in kind into a pool and access health care without payment for a year? If yes why and if no why not?
23. If cash what amount are you willing and able to contribute per person per year?
24. Will you like to contribute for all illnesses?
-For each of the illnesses mentioned, will you be willing and able to contribute for Consultation? Hospitalization? Surgery?
25. What is the maximum you will like to contribute per person per year?
26. Will you like to contribute all at once in a year?
27. If you cannot contribute all at once, in how many installments will you like to make the contribution in a year?
28. What time of the year, are you willing and able to make your contribution?
-Why that time?
29. What are your opinions about the quality of care at the hospital or modern health facility?
30. What quality of care do you expect from the health facilities?
31. If one manages to pay for the mutual health insurance how will this affect one's health seeking behaviour in terms of regularity of seeking treatment?
32. There is a proposal for people to contribute 36,000 as premium for the health insurance, will you be willing and able to contribute this?
-why or why not?

Thank you very much.

Have you or any member of this community suffered any illness for a week or more in the recent past?

Name: _____ PermId: _____
Cpd Name and ID: _____
Village/section: _____

IDI for recently recovered persons
IN-DEPTH INTERVIEW GUIDE FOR MUTUAL HEALTH INSURANCE STUDY
-Recent recovered person

Background and demographic characteristics

1. Sex?
2. How old are you?
3. Do you attend school or have you ever attended school?
4. What is your level of education?
5. What is your religion?
6. What is your ethnic origin?
7. Are you married?
8. How many children do you have?
9. What work do you do?

Morbidity and health seeking pattern

10. Which of these illnesses mentioned are most severe in this community?
11. Which illness did you suffer from recently?

Treatment cost

12. How much does it often cost you to treat (List the mentioned illnesses one after the other)?
13. How much did it cost you to treat your recent illness?
14. How do you meet the treatment costs?
15. What in your opinion is the most convenient way of paying for the cost of treatment of ailments?

Risk sharing

16. There is a saying that people are often taken ill at the time they don't have money. What are your views about this?
17. (Ask if some of the respondents agree with the above statement) What do you think can be done to meet such challenges?
18. Do people in this community come together to contribute (be it in cash or otherwise) to help one another in times of need?
19. Do people in this community come together to contribute (be it in cash or otherwise) to help one another in times of ill health?
20. What form does the contribution take if any?
21. How often is the contribution made?
22. What conditions do these contributions cover?
23. Have you heard about the cash and carry system at the health facilities?
24. What do you know about the cash and carry system?
25. Are there problems associated with the cash and carry system?
-what are they?
26. Have you heard about the government's programme to replace the cash and carry system?
 - i. Explain?
 - ii. Taking the cost of health care these days into consideration, will you be interested in a programme of helping one another in meeting the cost of health care and why?
 - iii. If you are to contribute in any form (cash or kind) will you be interested?
27. If yes, what form will you like to contribute (cash or kind)?
28. Who are the people you will like to contribute for?
29. What is the minimum you will like to contribute per person per year?
30. What is the maximum you will like to contribute per person per year?
31. Will you like to contribute for all illnesses?
32. Will you like to contribute all at once?
33. If you cannot contribute all at once, in how many installments will you like to make the contribution?
34. How should your contribution be managed?
35. Who should manage your contribution?

Thank you very much.

IDI for caretakers of ill individuals

IN-DEPTH INTERVIEW GUIDE FOR MUTUAL HEALTH INSURANCE STUDY-Caretaker of ill person

Background and demographic characteristics

1. Sex
2. How old are you?
3. Do you attend school or have you ever attended school?
4. What is your level of education?
5. What is your religion?
6. What is your ethnic origin?
7. Are you married?
8. How many children do you have?
9. What work do you do?

Treatment cost

10. What are the common illnesses in this community?
11. Which of these illnesses mentioned are most severe in this community?
12. Which illness did your relative/friend suffer from recently?
13. How much does it often cost you to treat (List the mentioned illnesses one after the other)?
14. How much did it cost you to treat the recent illness?
15. How do you meet his/her treatment costs?
16. What in your opinion is the most convenient way of paying for the cost of treatment of ailments?

Risk sharing

17. There is a saying that people are often taken ill at the time they don't have money. What are your views about this?
18. (Ask if some of the respondents agree with the above statement) What do you think can be done to meet such challenges?
19. Do people in this community come together to contribute (be it in cash or otherwise) to help one another in times of need?
20. Do people in this community come together to contribute (be it in cash or otherwise) to help one another in times of ill health?
21. What form does the contribution take if any?
22. How often is the contribution made?
23. What conditions do these contributions cover?
24. Have you heard about the cash and carry system at the health facilities?
25. What do you know about the cash and carry system?
26. Are there problems associated with the cash and carry system?
-what are they?
27. Have you heard about the government's programme to replace the cash and carry system?
 - i. Explain?
 - ii. Taking the cost of health care these days into consideration, will you be interested in a programme of helping one another in meeting the cost of health care and why?
 - iii. If you are to contribute in any form (cash or kind) will you be interested?
28. If yes, what form will you like to contribute (cash or kind)?
29. Who are the people you will like to contribute for?
30. What is the minimum you will like to contribute per person per year?
31. What is the maximum you will like to contribute per person per year?
32. Will you like to contribute for all illnesses?
33. Will you like to contribute all at once?
34. If you cannot contribute all at once, in how many installments will you like to make the contribution?
35. How should your contribution be managed?
36. Who should manage your contribution?

Thank you very much.

Appendix 5.5

IDI for health workers

IN-DEPTH INTERVIEW GUIDE FOR MUTUAL HEALTH INSURANCE STUDY

-Healthworker

Background and demographic characteristics

1. Health facility
2. Current number of staff?
3. Required number of staff?
4. Population coverage?
5. Distance to District Hospital?

Staff motivation

6. Are you well motivated to work?
7. Adequacy of equipment to work?
8. Attitude of patients towards your services?
9. Burden of work?

Morbidity and health seeking pattern

10. What are the common illnesses that are presented in this facility?
11. Which of these illnesses mentioned are most severe?
12. Do people seek early treatment for their illnesses? Why or why not?
13. Which of the common illnesses mostly affect children/pregnant women /the aged/adolescent?

Treatment cost

14. How much does it often cost to treat (List the mentioned illnesses one after the other)?
15. Is the cost of treatment the same for children/pregnant women/the aged/ adolescent /(Elicit answers for severe and mild illnesses)
16. Are people able to meet the treatment cost?
17. What in your opinion is the most convenient way of paying for the cost of treatment of ailments?

Risk sharing

18. There is a saying that people are often taken ill at the time they don't have money. What are your views about this?
19. What do you think can be done to meet such challenges?
20. Have you heard about the government's programme to replace the cash and carry system?
 - i. Explain?
 - ii. Taking the cost of health care these days into consideration, will you be interested in a programme of helping one another in meeting the cost of health care and why?
21. What is the minimum you will like to contribute per person per year?

Role of health worker

22. What role do you envisage for the health worker in the implementation of the national health insurance scheme?
23. Should there be exemptions in this scheme?
24. What should be the nature of exemptions?
25. How will the quality of services be improved?

Management and reimbursement

26. In your opinion, who should manage the scheme?
-premiums etc
27. What should the nature of reimbursement be?
-time lines etc.
-channels and bureaucracy?

Thank you very much.

Appendix 6
Letter of approval from the Institutional Review Board

*In case of reply the
number and date of this
letter should be quoted.*

*My Ref. : NHRCIRBA/08/2003
Your Ref. No.*



Institutional Review Board

Navrongo Health Research Centre
Ghana Health Service
P. O. Box 114
Navrongo, Ghana
Tel: +233-742-22651
Fax + 233-742-22320

Email: irb@navrongo.mimcom.net

May 13, 2003

Mr. James Akazili
Navrongo Health Research Centre
Navrongo

Dear Mr. Akazili,

IRB No. NHRCIRB019

Approval Letter for "Health Care Financing" protocol

I wish to inform you that the Institutional Review Board of the Navrongo Health Research Centre has reviewed and approved the revised protocol on the above subject which you submitted for ethical clearance.

The Board is of the view that you have addressed all the concerns we raised during the initial review of your protocol and we are satisfied with all the explanations you provided.

Your project will be due for an annual continuing review on May 12th 2004 but between now and then, you are expected to report any serious adverse events that might occur in the course of the study.

If you have any questions, please contact Ms. Paulina Tindana or Mr. Raymond Aborigo, the IRB administrators, at the Navrongo Health Research Centre.

We wish you all the best in this study.

Sincerely,


Dr. Joseph Amankwah
Chair, NHRC-IRB

Cc
Dr. Abraham Hodgson
(Director, NHRC)