Attachment 1. Date 07.04.96

(FACE SHEET) ETHICAL REVIEW COMMITTEE, ICDDR,B.

Principal Investigator M. DESMET Trainee Investigator (if any) NO

Application No. 95-015 (Revised) Supporting Agency (if Non-ICDDR,B) BADC (Partially)

Title of Study HEALTH CARE USE PATTERN IN THE CATCHMENT AREA OF GONOSASTHYA KENDRA HEALTH CARE SYSTEM IN SAVAR AND GAZIPUR THANAS, BANGLADESH

Project status: Gonosasthya Kendra (Partially)
(X) New Study
( ) Continuation with change
( ) No change (do not fill out rest of form)

Circle the appropriate answer to each of the following (If Not Applicable write NA).

1. Source of Population:
   (a) Ill subjects (Yes) No
   (b) Non-ill subjects (Yes) No
   (c) Minors or persons under guardianship (Yes) No
2. Does the study involve:
   (a) Physical risks to the subjects Yes (No)
   (b) Social Risks Yes (No)
   (c) Psychological risks to subjects Yes (No)
   (d) Discomfort to subjects Yes (No)
   (e) Invasion of privacy (Yes) No
   (f) Disclosure of information damaging to subject or others Yes (No)
3. Does the study involve: N/A
   (a) Use of records, (hospital, medical, death, birth or other) Yes No
   (b) Use of fetal tissue or abortus Yes No
   (c) Use of organs or body fluids Yes No
4. Are subjects clearly informed about:
   (a) Nature and purposes of study (Yes) No
   (b) Procedures to be followed including N/A alternatives used Yes No
   (c) Physical risks N/A Yes No
   (d) Sensitive questions Yes (No)
   (e) Benefits to be derived (Yes) No
   (f) Right to refuse to participate or to withdraw from study (Yes) No
   (g) Confidential handling of data (Yes) No
   (h) Compensation &/or treatment where there are risks or privacy is involved in any particular procedure Yes (No)
5. Will signed consent form be required:
   (a) From subjects (Yes) No
   (b) From parent or guardian (if subjects are minors) (Yes) No
6. Will precautions be taken to protect anonymity of subjects (Yes) No
7. Check documents being submitted herewith to Committee:
   N/A Umbrella proposal - Initially submit an overview (all other requirements will be submitted with individual studies).
   ✓ Protocol (Required)
   ✓ Abstract Summary (Required)
   ✓ Statement given or read to subjects on nature of study, risks, types of questions to be asked, and right to refuse to participate or withdraw (Required)
   ✓ Informed consent form for subjects
   ✓ Informed consent form for parent or guardian
   ✓ Procedure for maintaining confidentiality
   ✓ Questionnaire or interview schedule *

* If the final instrument is not completed prior to review, the following information should be included in the abstract summary:
1. A description of the areas to be covered in the questionnaire or interview which could be considered either sensitive or which would constitute an invasion of privacy.
2. Examples of the type of specific questions to be asked in the sensitive areas.
3. An indication as to when the questionnaire will be presented to the Cttee. for review.

We agree to obtain approval of the Ethical Review Committee for any changes involving the rights and welfare of subjects before making such change.

Principal Investigator

Trainee

Title: "Health care use patterns in the Catchment Area of Gonoshasthya Kendra Health Care System in Savar and Gazipur thana Bangladesh."

CHECK-LIST FOR SUBMISSION OF PROPOSALS TO THE RESEARCH REVIEW COMMITTEE (RRC)

[Please tick (✓) the appropriate box]

1. Has the proposal been reviewed, discussed and cleared at the Division level ?

   Yes ☒

   No ☐

   If the answer is 'NO', please clarify the reasons: _____

2. Has the proposal been peer-reviewed externally ?

   Yes ☒

   No ☐

   If the answer is 'NO', please explain the reasons: _____

3. Does the proposal address gender issues ?

   Yes ☒

   No ☐

   If the answer is 'NO', Please give the reasons.

4. Has a funding source been identified ?

   Yes ☒

   No ☐

   If the answer is 'YES', please indicate the name of the donor: IDRC - Canada, BADC - Belgium, GK - Bangladesh

Contd... /

5. Whether the proposal is a collaborative one ?

Yes ☒

No ☐

If the answer is 'YES', the type of collaboration, name and address of the institution and name of the collaborating investigator be indicated:

Manosasthya Kendra, Savar

Collaborating Investigators : Drs A Qaisem Chowdhury, Morshed Chowdhury, KMQ Ahmed

6. Has the budget been cleared by Finance Division ?

Yes ☒

No ☐

If the answer is 'NO', reasons thereof be indicated: _____

7. Does the study involve any procedure employing hazardous materials, or equipments ?

Yes ☐

No ☒

If the answer is 'YES', fill the necessary form.

8 April 1996
Date

Signature of the
Principal Investigator

1. PRINCIPAL INVESTIGATORS Martinus DESMET
AQasem CHOWDHURY
James L ROSS

2. OTHER INVESTIGATORS Morshed CHOWDHURY
KMQ AHMED
Nazmul SOHEL
Ishtiaq BASHIR

3. TITLE OF PROJECT "Health Care Use Patterns in the Catchment Area of Gonosasthya Kendra Health Care System in Savar and Gazipur Thanas, Bangladesh"

4. EXPECTED STARTING DATE July, 1996

5. EXPECTED DATE OF COMPLETION June, 1998

6. TOTAL BUDGET US$ 75,631

7. FUNDING SOURCES Gonosasthya Kendra Health Services
Belgian Administration for Development Cooperation
International Development Research Centre, Canada

8. HEAD OF PROGRAMME Dr KMA AZIZ

This protocol has been approved by the Community Health Division

Signature of the Acting Divisional Director, CHD kmaaziz

Date April 8, 1996

Abstract

Health care seeking behaviour is known to be complex and multifactorial. There are thus far few studies for Bangladesh which approach this issue in a comprehensive way through community-based surveys. Two comprehensive analysis of health care use patterns in the slum and non-slum population of Dhaka-City - a community-based, longitudinal study using quantitative and qualitative research methods - has already been initiated by some of the authors of this study proposal. The present study is proposed to investigate health care seeking in a rural population in Savar and Gazipur thanas. It aims to cover the same set of objectives and to use the same methodology applied in the urban studies. Currently, the issue of sharing health care costs has become a high priority issue in the health policy debate. Therefore, special attention will be paid in this study, as in the previous ones, to investigate health care user costs.

The *aim* of the study is to provide policy-makers, including the team in charge of the GK health care system, with findings on the current health care use pattern, including user costs on health care in the GK health care system's catchment area.

The *specific objectives* are (1) to determine and investigate variables that contribute to health care choice making and utilization in the study populations, (2) to investigate indicators of perceived quality of care, the role of various types of individuals in the decision-making process, and reasons for use and non-use of health care alternatives, and (3) to determine how much is being spent on health care (direct and indirect health care user costs).

Expected outcomes of the study are to contribute to a better understanding of health care seeking in the two study populations, and to provide an insight in their health care expenditure and possible community financing mechanisms for health care. With this, it is expected that policy-makers may adjust where required existing health care strategies.

Research methods

The proposed study consists of three phases.

The first phase will generate descriptive data on the components of health care decision making through interviews with about 10 to 15 individuals of the study population.

During the second phase - a 6-month longitudinal survey in 787 households (or about 3,500 individuals) -, data will be collected on all new illness episodes through fortnightly visits.

Simultaneously, selected socio-economic and demographic variables will be followed up on a monthly basis. A stratified one stage sampling technique will be used for the selection of the sample.

The third phase of the study will consist of a series of about 100 case studies on specific illness and health care seeking experiences reported during the longitudinal survey. This phase will take place concomitantly with the second phase of the study.

Considering the nature of the study, a mixed team of junior and senior public health physicians and anthropologists will be in charge of the study.

9. AIMS AND OBJECTIVES

A. AIMS

-to enable - through the assessment of the use of health care options in the catchment area of the GK health care system in Savar and Gazipur thanas - the GK health care team to adjust where required their existing policies regarding the organisation of the health care system.

-to provide at the same time national health policy makers and managers with data on health care seeking in a rural area with a functional health care system. This may enable them to study to what extent the GK health care system may serve as a model for other rural health care districts in Bangladesh.

B. SPECIFIC OBJECTIVES

1) To investigate health care utilization in the study population according to the following variables :
-illness-related characteristics, such as perceived severity and cause of illness,
-treatment-related variables, such as likely objective effectiveness, and perceived quality of care,
-kind of health care alternative used,
-distance between user and health care alternative,
-subscription to the GK health insurance scheme,
-demographic variables, such as age, sex, household size and migration pattern,
-socio-cultural variables, such as ethnic group, religion and education,
-economic variables, such as income, expenditure, occupation and assets,
-proxy-indicators for SES, such as access to and use of water and sanitation facilities, and house structure.

2) To investigate perceived quality of care and reasons for use and non-use of health care alternatives, and the role of various individuals in the health care decision process.

3) To determine how much is being spent on health care (direct and indirect user costs) according to the same series of variables listed under specific objective 1).

C. SIGNIFICANCE

Bangladesh has one of the lowest per capita incomes of the world. More than half the population lives below the poverty line and illiteracy rates are high. General health indicators demonstrate the poor health and nutrition status of its population : morbidity and mortality are high, life expectancy low and economic performance poor. The World Bank[1] points further out that three-quarters of the population (mainly women and children) are continuously ill and severely

malnourished. Similarly, the health and nutrition status of adult males is also very poor.

In order to escape this vicious circle of poverty and ill health, interventions should be focused on improving the socio-economic welfare of broad sections of the population and on the availability of appropriate health care.

Research on use patterns of health care has become one of the cornerstones of ICDDR,B's scientific agenda. This may be illustrated by the following statement from the section on 'Health Services and Policy Research' of the new Strategic Plan of ICDDR,B, entitled "To The Year 2000"[2] :

> 'The application of health ... technology ... is not straightforward, and ICDDR,B has been in the forefront of developing the methodology for investigating this issue through the utilisation of health services and policy research...'

and further in the same section :

> 'No major increases in resources or dramatic breakthroughs in technology are foreseen in the near future. Therefore, improvements in community health status will be possible mainly through increased utilisation and effectiveness of existing infrastructure and manpower,...'

In Bangladesh, a wide array of health care resources are available. They range from modern to traditional, from public to private services, from formal to informal care, and from hetero-treatment to self-care. A comprehensive evaluation of health care utilisation should not only be based on data about use rates of different types of health care alternatives, but also on the pattern of self-care and on the "wait-and-see" attitude. Additionally, it should focus on reasons for use and non-use and on health care user costs, and relate health care seeking to characteristics of the users and their health problems and of the health care options available in a given study population.

One such comprehensive evaluation has been done in the *slum population* of Dhaka-City in 1993-1994 by some of the authors of this proposal[3], and another one is in its initial field implementation stage in the *non-slum population* of Dhaka-City[4]. The purpose of the present study is to investigate the same research issues in a rural, but rapidly changing population living in the Savar and Gazipur thanas (a thana is an administrative unit comprising on average about 250,000 inhabitants), close to Dhaka-City, the capital of Bangladesh, and with an influx of small industry and other job opportunities. In all of these respects it is quite typical of the situation which will prevail in most of South Asia ten years or so from now.

Beginning in the early 70ies, a health care system has been developed by Gonosasthya Kendra Health Project (GKHP) in this area. The GKHP currently serves 6 unions with a total population of about 160,000 inhabitants (19,000 to 30,000 per union). This system is built up in three tiers : grass-roots health workers, subcentres and a Referral Hospital in Savar. There are two systems of payment for services in the GKHP : a fee-for-services system (only for curative services) and a health insurance scheme, introduced since 1972. About 30% of the population

covered by the GK health system have currently subscribed to the latter.

Besides the GKHP, a wide range of other health care resources are available. The availability of many other health care options appears to indicate that they are used by the population. Therefore, the leaders of the project would like to investigate to what extent this is the case for the population currently covered by the project. The proposed study aims at addressing this through a comprehensive analysis of the health care seeking behaviour of the population living in the catchment area of the GKHP.

10. ETHICAL IMPLICATIONS

This study proposal will be submitted to the Ethical Review Committee of ICDDR,B for approval. Furthermore consent will be sought from the head of the household after a brief explanation of the purpose of the study by the interviewer at her first passage. Afterwards, consent will be sought from each interviewee to participate in the study and in the case of the children, from the head of the household. Data gathered from the households under investigation will be kept confidential (see Annex 1, consent form and procedure for maintaining confidentiality).

No invasive techniques or interventions will be used in the study. In cases of serious illness episodes, referrals will be made by a physician on request for appropriate facilities of the patient's choice.

11. BACKGROUND, RESEARCH PLAN AND BIBLIOGRAPHY

A. BACKGROUND INFORMATION

1. Research methods for the purpose of the study.

Health care seeking is amongst others determined by the way in which the patient and individuals in her/his environment perceive illness. Investigating health seeking behaviour implies thus an a priori understanding of the socio-cultural meaning of ill-health beyond its clinical-medical concept. Therefore, the study on health care use in the slum communities already used both qualitative and quantitative approaches.

The present study will also comprise these two methods :

- The *qualitative method* focuses on the components of health care decision processes, i.e. on what people take into account when they face an illness treatment decision, how available alternatives are considered and what relevant constraints operate. It uses mainly qualitative research techniques based on interviews of a small group of informants.[5] The degree of validity of these components

of decision processes may then subsequently be tested.
- The *quantitative method* uses various correlational and statistical tests to investigate how explanatory variables contribute in the choice of health care.

Both methods should be utilized together because their findings are complementary and because of the specific methodological limitations of each one.

2. Background information on the subject for Bangladesh.

In spite of a considerable number of small-scale studies on health care use in Bangladesh, there are relatively few community-based studies on aspects of the demand for health care.

Major determinants in the decision process for health care in Bangladesh are socio-economic such as income, education level of the parents and the gender of the sick subject.[6,7] Amongst others, the latter may contribute to the influence of gender on mortality in children's age groups.[8] Non-utilisation of health care resources however has been shown to be influenced by factors such as payment of a fee, timing of services and behaviour of the healer.[9,10]

An interesting retrospective study for rural and urban settings on health expenditure and finance patterns, health status and health care use issues at the household level is the Bangladesh Health Finance and Expenditure Study[11] of 1988. Many economic variables in health care were considered in this study, such as user treatment and travel costs and indirect costs due to loss of income, the structure of average direct costs, break-downs of the latter for different types of health care provision, and aspects of the relation between health care costs and overall household expenditure. Additionally, use rates were explored, including reasons for use and non-use for different types of health care (such as curative (current sicknesses and one month prior to death), preventive care, family planning, delivery practices) and health care providers.
One interesting economic finding was the much lower overall average user health care costs in rural compared to urban areas, reflecting the epidemiologic transition in the latter. Some other salient findings of this extensive study for the rural areas are the positive association between expenditure on health and household expenditure, the use of relatives/neighbours and ordinary dai for delivery in more than 80% of delivery cases, use of qualified allopath doctors in about 35% of current sicknesses compared to less than 1% use of self-care, and a per capita annual medical expenditure of US$ 3.30. This last figure is for instance more than double of what is spent on public health care facilities which stands at about US$ 1.50 per capita per year.

In an interesting paper by F Nessa, S Rahman, and S Banu[12] the importance of the "wait-and-see" attitude and "self-care" were highlighted as initial steps related to treatment of diseases in rural Bangladesh. Additionally, there might be a sequence of steps taken from the wait-and-see attitude to self-care and to doctor/hospital care. When the latter in turn does not help, an equal choice for the three mentioned options is observed. In the case of self care, the type of treatment seemed to be specific for the type of disease.

A recent community-based study by Md Ali[13] carried out in a rural area on 179 cases of diarrhoea in children under five showed that advice by the mother on what treatment measures to apply was mainly sought from the mother-in-law followed by the child's father. It has been attributed to the recognition of the child's grandmother's past experiences in rearing her own children and the fact that women are living in the husband's family. Advice from the father leads statistically more often to taking the sick child to a practitioner. Overall, only one third of the cases have been taken to a practitioner. The reasons for non-use of practitioners in the remaining two thirds were related to the trivial nature of the illness, and to socio-economic and distance-related factors. The study results seemed to show no gender difference in choice for consultation with a practitioner. House structure, taken as a proxy for economic status, and mother's education were significantly related to consultation. Illnesses related to dysentery were most likely to have been taken to a practitioner. Most of the allopath practitioners maintain continuity of care and frequently contact their cases. Satisfaction with treatment was found in about 50% of the cases and was similar for all types of practitioners.

A community-based study[14] of 150 rural households showed that 90% use modern allopathic care, out of which 60% use the thana health complex and 33% went to private practitioners, despite complaints about long distances, mismanagement, and providers' attitudes at government facilities. This high figure for use of government services, or modern care in general may be due to the fact that for instance self-care and traditional healers were not considered in this study. For instance, Salauddin et al.[15] observed that in their rural study population about 60% of the health care providers used by their sample were traditional village doctors, 35% used chemist shops, and only 5% sought care from government health workers.

B. RESEARCH PLAN

1. STUDY POPULATION

The study population is composed of the population living in the catchment area of the GK health care system. Geographically, this means 5 out of the 6 northern unions of the Savar thana and 1 union of Gazipur thana. The total number of people is 159,752, ranging from 19,671 to 33,686 inhabitants per union. (please see Annex 3.1 under the section on the study population) The town of Savar is located in the south-western part of the area, about 40 kms away from Dhaka, the capital of Bangladesh. (please see Annex 2 for a map of the area)
The main economic activity in the area is agriculture, both subsistence and cash crops, including jute. As mentioned above, industry is rapidly increasing, although agriculture still predominates.

2. RESEARCH STRATEGY

As pointed out above, there are many research method exists to explore the complexity of health-seeking in a community, no one of which is clearly superior.

Therefore the study strategy will be built up with the following elements :

2.1. Focus group discussions and in-depth interviews of a limited number of respondents will generate descriptive data on the *components of health care decision processes* and disease classification. This **cognitively-oriented study** will address questions on :
(1) the components of health care decision making :
(a) the major *health care alternatives* that the study population perceives to be available,
(b) the *criteria* considered in choices among these alternatives and operating *constraints*,
(c) the role of household and community members as *decision-makers*.
(2) Attempts will be made to refine these findings for different health problems or groups of health problems. Therefore (and also for the design of the questionnaire to be used in the longitudinal survey), lists of *complaints and perceived illness* will be constructed. For this, the knowledge gained by GKHP of the local disease pattern and of perceived illness taxonomy will used together with the data collected from the respondents.

This cognitive study will generate an independent body of information, and, non-exhaustive lists on perceived illness, health care alternatives, criteria and constraints and possible decision-makers in health seeking. The interviewers will use these lists during the longitudinal survey.

It is expected that this part of the investigation will take one to two months.

2.2. Subsequently, a prospective **longitudinal survey** will be conducted. In each study site two concurrent surveillance systems will be set up :

(1) a surveillance system on all occurring *illness episodes* in the households under investigation. Data will be collected on all health care resources used during each illness episode, and for each health care resource used, the criteria for use and constraints in health care choice, decision-makers, indicators for patient satisfaction, and direct and indirect user costs.
(2) a surveillance of the households under investigation for selected *socio-economic and demographic variables*. It will be preceded by a more extensive baseline survey.
The home visits will be conducted on a fortnightly basis for data collection on illness episodes. Data on socio-economic and demographic variables will be recorded on a monthly basis.

The total duration of this longitudinal survey is proposed to be 6 months covering parts of the summer and winter seasons, because some household and illness characteristics tend to vary by time of the year (eg irregular household income and availability of cash, major expenses for clothing etc in the period before important religious events, changes in household composition, seasonal variation in the incidence of illnesses).

This design has been chosen to test the dynamics of health seeking behaviour (i.e. testing the relative importance of the criteria (including constraints) in health care decision processes as developed in the first stage of the investigation).
Secondly, this research strategy is appropriate to investigate 'healer shopping' more specfiically sequential healer use, and to follow up the influence on health care choice of crisis situations (economic and social) occurring in the household.
It also allows concurrent collection of data on a series of explanatory variables which may co-vary with specific health care choices and on direct and indirect user health care expenditure for individual illness episodes and as a component of household expenditure.
Specific questionnaires for each of the surveillance systems will be used.

2.3. During the longitudinal survey, a series of **case studies** will be carried out. Because the longitudinal survey is conducted only on illness, all delivery and abortion cases occurring in the longitudinal survey sample will be included in the case studies, and furthermore a series of cases with particular health care seeking behaviour experiences and user expenditure, such as hospitalisation cases, chronic illness cases, and use of health care prior to death cases. (the data of the longitudinal survey will be analyzed simultaneously with the progress of the survey).

Considering the interdisciplinary nature of the study, a team of public health physicians and anthropologists will be in charge of the study. Therefore, the study will be a collaborative one between teams of the Health Systems Research Interest Group, the Social and Behavioural Sciences Programme of ICDDR,B, and the GKHP.

3. SAMPLING METHODS AND PROCEDURE

3.1. Cognitive study

An oppotunistic sample of females and males will be interviewed, each comprised of about 15 informants from the study population. They will be selected on the basis of their communication skills and assumed knowledge relevant to the subject of this study. The informants will be taken from villages of two to three unions of the GK catchment area.

3.2. Longitudinal survey

3.2.1. Choice of sampling technique

Considering the complex nature of health care seeking, it is proposed to carry out a stratified sampling technique.

As indicated earlier, the study population is composed of the population living in the catchment area of the GK health care system. The study population will be stratified according to geographical location (one stratum for each union), subscription status to the health insurance scheme, and socio-economic status (4 categories), thus totaling 48 substrata.
The required number of households to be selected will be assigned to these substrata with probability-proportional-to-size sampling. Within each substratum, the households will be selected with systematic sampling.
Please see Annex 3.1 for all details on the sampling procedure.

3.2.2. Sample size calculation

The unit of analysis for this part of the study is 'illness episode'. The formula for determining the *required sample size* is related to one of the analysis methods that will be used, namely statistical analysis of proportions for the different explanatory variables involved in health care choice.

Assuming
- proportions of for instance 0.4 (p1) and 0.6 (p2) (eg difference in proportions of males (p1) and females (p2) using modern health care versus traditional health care statistically significant when greater than 20%),
- and $P=(p1+p2)/2$,
- a power of 90%,
- a confidence level of 95%,

then the sample size is, applying the formula
$n = 2P(1-P)x10.5/(p1-p2)^2 = 2 \times 0.5 \times 0.5 \times 10.5/0.2^2 = 131.25$ in each group.
Allowing for 20% non-responders and drop-out in each group (eg. about 3 to 5% of the

households migrate out, they will not be replaced), the total in each group becomes [131.25 + (131.25x0.2)] =117.5, or in total 117.5x2=**315 cases** for each health problem under investigation.

In order to determine the number of individuals to be followed up, we have calculated in Annex 3.2 the estimated illness episode incidences for different numbers of populations for common and less common illnesses within a period of 6 months, the proposed duration of the longitudinal survey.

The figures in Annex 3.2. indicate that a minimum sample of individuals for the survey is about **3,500 or 787 households**, using the GK average household size of 4.4488 individuals per household.(for the selection procedure, see Annex 3.1., section II. 'Sampling procedure').

3.3. **Case studies**

It is suggested to conduct a total of about 100 case studies. Assuming a Crude Birth Rate of 32.9 pro thousand (Matlab 1990), the expected number of delivery cases in the longitudinal survey sample over the survey period of 6 months, is 58 delivery cases. The other cases studies will be distributed over selected areas of specific health seeking behaviour, as specified above in section 2.3. on p.9. They will be randomly selected, where required, from the cases occurring during the longitudinal survey.

4. METHODS OF DATA COLLECTION

4.1. **Cognitive study**

The interviews with the informants will involve a range of qualitative methods and techniques such as ranking tasks, and informal open ended discussions on respondent's own past health care decisions as well as their more general observations on health and health seeking behaviour in their communities. The interviews will gather information on decision making processes and the constraints people face in actual health seeking situations as well as concepts of ideal behaviour and disease taxonomy. Interviews will be conducted with individuals and groups. Please see Annex 4 for the guidelines for these interviews.

4.2. **Longitudinal survey**

4.2.1. The questionnaires that will be addressed for both the illness episodes and the socio-economic and demographic update will contain pre-coded and open-ended questions.[16]

(1) For the *illness episode surveillance,* two questionnaires will be used : the first one in an illness episode will address illness characteristics and data on use of the first health care resource during the episode. The second one will contain questions on the use of any subsequent use of health care resources. It will address the same questions on health care use as those contained in the first questionnaire. As indicated above, 'tracer conditions' will be used for detecting the complaints of the respondents. Please, see Annex 5.2. for an outline of questionnaire 1, and Annex 5.3. for questionnaire 2.

Interviews on any new occurring illness episode will be conducted every two weeks for six months and will include every household member who is (has been) ill. For illness episodes of children proxy-reporting by a close family member will be used. Each illness episode will be followed up until its resolution (death or recovery) during every subsequent visit to the household and subsequent/concomitant information will be collected on use of any health care resource.

Re-visits will be necessary because of the difficulty of finding respondents at home during day time hours, or when the patient is hospitalised. In the latter case interviews will be conducted when the patient is back home. An interview with questionnaire is expected to take on average 30 minutes.
For all these reasons 10 interviews with questionnaire have been planned per day.

(2) The *baseline socio-economic and demographic survey* as well as the *monthly update of the selected socio-economic and demographic variables* will be conducted with the help of special forms. Please see Annex 5.4. for an outline of the Baseline Survey form, and Annex 5.5. of the Socio-economic and demographic update form.

Interviewers will be recruited and trained in the use of all the forms and questionnaires. Outlined instructions will be available for this purpose. The questionnaires will be field tested.

4.3. In-depth interviews specific to the **case studies** technique will be carried out. Guidelines will be elaborated relating to each area of interest for the case studies. They will be especially trained for the purpose of this phase of the study.

5. SOURCES OF BIAS

An inappropriate recall period may have considerable respondent bias. The reasons for the choice of two weeks as recall period are :

- a shorter recall period (and thus a more frequent submission to questions about the actions interviewees take for illness episodes) could induce compliance of the interviewees, and even a real change in their health care seeking behaviour ;
- with a longer recall period, problems may arise of recalling of only the more severe episodes and more generally of recall by the interviewee of events about the occurred illness episodes.

Bridges-Webb[17] points out that a two-week recall for illness reporting has mostly been adopted as 'a compromise between obtaining enough information about current illnesses and loss of accuracy due to the vagaries of memory'.

A potential bias may be induced by both interviewers and respondents in over emphasizing the more severe illness episodes and thus decreasing the quality and quantity of the data gathered for the trivial illness episodes. In the literature there are different views about the validity of health interviews.[18,19,20] However, the use of a list of 'tracer conditions' in the questionnaire 'has been shown the most sensitive instrument for measuring perception of ill health'[21], especially of minor and chronic conditions.

A similar type of interviewer bias may arise when taking medically trained people (either in modern or traditional practices) as interviewers. Non-medical women will be selected as interviewers as women are considered the caretakers in the households and therefore better accepted in the slums as interviewers. On the other hand, it may be expected that female interviewer face problems to collect accurate data on economic variables of the household, such as income and expenditure patterns. Due attention will therefore be given to this during the training of the interviewers.

Proxy-reporting may introduce a potential respondent bias. Most authors agree, nonetheless, that this technique - particularly when parents report for children - is appropriate for investigation on individual's problem, especially where group management of illness cases prevails in the community.[22] Selective reporting related to the gender, especially of children, has been observed.[23] Therefore, special attention will be given to the reporting of illness episodes of the female members of the households.

6. ARRANGEMENTS FOR DATA HANDLING AND ANALYSIS.

Data from the interviews with the informants in phase one of the study will be analysed qualitatively for the identification of the components of health care decision processes and the list of tracer conditions.

Fox Pro will be used for the computerised design of the questionnaires to be addressed in the longitudinal survey. SAS will be used for the univariate and multivariate analysis of the data on the co-variables monitored during the longitudinal survey. Data will be analyzed at illness episode level, individual household member level, and at household level. Appropriate statistical techniques for multilevel data analysis will be applied wherever required.
Data related to the testing of the criteria and constraints in health care decision processes will be analysed quantitatively. (see also Annex 6: outline of data analysis and expected outcome)

The case studies will be entered into the computer and analysed qualitatively according to the areas specific to the interest of this part of the study.

12. PUBLICATIONS OF PRINCIPAL INVESTIGATORS

Desmet M (1991) Evaluation of community participation. An example of Kasongo, Zaire. Summer dissertation, Master of Science Course, London School of Hygiene and Tropical Medicine

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Desmet M (1995) Equity in health care forgottenfor the urban poor ? Abstract Second Canadian Conference on International Health, Ottawa, Canada

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Ross J, Nahar K, Pelto P, Laston S (1995) "Women Health Priorities : Cultural perspectives on Illness and Health Seeking Behaviors in a Rural Area". Paper preapred for the Annual Scientific Conference of the ICDDR,B

Ross J, Muna L, Nahar P, Pelto P, Laston S (1995) "Explanatory Models of TRIs and STDs Among Men and Women in Rural Bangladesh". Paper preapred for the Annual Scientific Conference of the ICDDR,B

Ross J, Muna L, Nahar P, Pelto P, Laston S (1995) "Choice of Health-Care Seeking in a Rural Community : Pluralistic Mixing of Indigenous and Cosmopolitan Health Resources". Paper preapred for the Annual Scientific Conference of the ICDDR,B

Laston S, Ross J, Pelto P (1995) "Health Problems and Care-seeking in Pregnancy and Childbirth in Matlab". Paper preapred for the Annual Scientific Conference of the ICDDR,B

Laston S, Ross J, Pelto P (1995) "Males Perspective on Pregnancy and Childbirth". Paper preapred for the Annual Scientific Conference of the ICDDR,B

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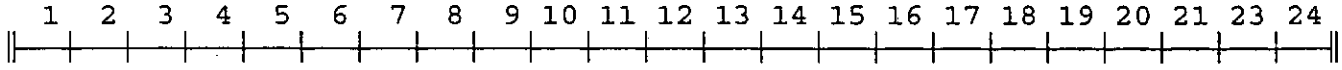
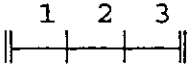
Ross J (1982) "Hindu and Tibetan Reproduction and Fertility in Northwestern Nepal : a study of Population, Ecology, and economics". PhD Dissertation, Case Western Reserve University.

13. FLOW CHART OF ACTIVITIES

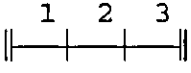
Total duration of study



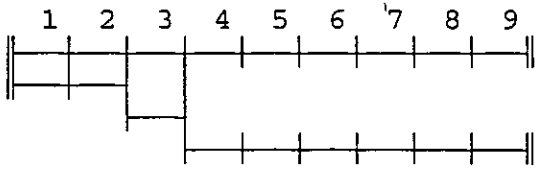
1. Sampling procedure



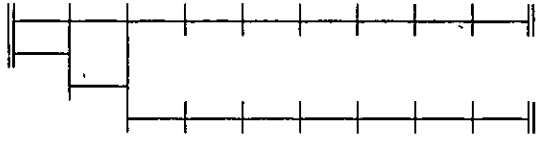
2. Cognitive Study



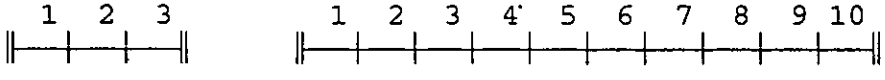
3. Longitudinal Survey
   - -training & field test
   - -baseline survey
   - -survey



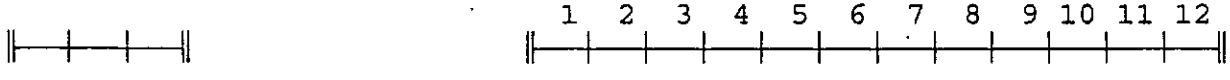
4. Case Studies
   - -training
   - -elaborate guidelines
   - -field work



5. Data Coding, Entry, Edit, Clean



6. Data Analysis & Reporting



14. ITEMIZED SPECIFIC TASKS FOR EACH LISTED INVESTIGATOR

As mentioned earlier, the research team is composed of social scientists and public health physicians. It includes :

Principal investigators : public health physicians : M DESMET, Q CHOWDHURY
- -overall responsibility for the study
- -develop and finalize protocol
- -develop and finalize questionnaires
- -select and train interviewers for longitudinal survey(mainly use of questionnaires)
- -participate in quality control of their work in the field
- -analyze data from questionnaires, interpretation of findings and reporting
- -writing up of final report

Principal Investigator : anthropologist : J ROSS.
- -finalize protocol
- -develop and finalize outlines for key informant and in-depth interviews
- -technical assistance in the field work of the cognitive study and case studies
- -quality control, analyze data and reporting
- -participate in writing up of final report

Co-Investigators : anthropologists : ...
- -finalize and translate outline for key informant and in-depth interviews
- -participate in key informant interviews, analyze data and reporting
- -participate in in-depth interviews of case studies
- -quality control of key informant and in-depth interviews, participate in data analysis and reporting.

Co-Investigators : public health physicians : M CHOWDHURY, I BASHIR, KMQ AHMED
- -finalize and translate questionnaires for the longitudinal survey
- -training of interviewers (mainly communication skills)
- -quality control of their work in the field
- -code questionnaires longitudinal survey
- -participate in interpretation of analysis findings and reporting from questionnaires
- -ensure appropriate patient referral when requested by interviewee.

Co-investigator : research officer : N SOHEL

-training of interviewers (mainly socio-economic aspects of questionnaires)
-quality control of the interviewers' work in the field
-quality control of data entry process
-follow-up of the computer programmatic aspects of field data collection
-participate in interpretation of analysis findings and reporting

15. BUDGET

For this study there is a consortium of three funding agencies, namely the Gonosasthya Kendra itself, and two external donors, the Belgian Administration for Development Cooperation and the International Development Research Centre of Canada. The two external donors already approved the study.

BUDGET ESTIMATION

The budget details and the distribution of the budget items over the funding agencies are given below.

		Total budget	covered by IDRC		covered by BADC	covered by GK
			managed by ICDDRB	managed by GK		
SALARIES						
Pr Investigators						
-M Desmet	*	*				
-Q Chowdhury	*	*				
-J Ross	*	*				
Co Investigators						
-M Chowdhury	USD 250 x 24	6,000				6,000
-KMQ Ahmed	USD 250 x 24	6,000				6,000
-I Bashir	USD 250 x 24	6,000			6,000	
-N Sohel	USD 250 x 24	6,000			6,000	
Field Supervisor						
-longitudinal survey	USD 200 x 9	1,800		1,800		
Interviewers						
-longitudinal survey	USD 150 x 9 x 8	10,800		10,800		
Data Entry Techn						
-sampling	USD 250 x 2 x 1	500	500			
-longitudinal survey	USD 250 x 10	2,500	2,500			
Secretary						
-total duration study	USD 200 x 24	4,800				4,800
-case studies(typing)	USD 200 x 3	600				600
-case stud(translat,)	USD 10 x 100	1,000			1,000	
Accountant (25%)						
-total duration study	USD 100 x 24	2,400	2,400			
TRANSPORT						
Interviewers						
-longitudinal survey	USD 50 x 9 x 8	3,600		3,600		
Field supervisor						
-longitudinal survey	USD 50 x 9	450		450		
Co investigators						
-total duration study	USD 50 x 18 x 4	3,600	1,800	1,800		
Princ investigators						
-total duration study	USD 50 x 18 x 2	1,800	900	900		
OFFICE SUPPLIES						
Questionnaires	USD .0625x(18888+5509)	1,525	1,525			
Small office supplies	USD 4000	4,000	2,000		1,000	1,000

CAPITAL EQUIPMENT						
Tape recorders	USD 70 x 4	280		280		
Hardware						
-486 IBM-compatible	USD 3000	3,000		3,000		
-2 386 IBM-compatible	USD 1000 + 800	1,800				1,800
-notebook IBM-compat	USD 3750	3,750			3,750	
TOTALS		72,205	11,625	22,630		
OVERHEAD (10%)**	-	3,426	1,163	2,263		
GRAND TOTALS		75,631	37,681		17,750	20,200

*covered by respective organisations
**only on contribution of IDRC

BUDGET OVERVIEW

Contributors	Amount (US$)
-GK	20,200
-BADC	17,750
-IDRC	37,681
TOTAL	*75,631*

S. M
7/4/96
(Controller, Budget & Costing)

JUSTIFICATION OF BUDGET - RESOURCE REQUIREMENTS

1. REQUIREMENTS IN PERSONNEL

The Principal Investigators will put 20 % of their time-load into the study. The co-investigators-public health physicians and research officer will work full-time on the project. The co-investigators-anthropologists will contribute an estimated 20% time to the study.

1.1. **Sampling procedure**

About 36,000 households with the variables mentioned in Annex 3.1. section II, have to be entered into the computer in order to construct the household lists corresponding to each substratum. It is estimated that one data entry technician is able to enter about 250 households a day. In GK there are on average 26 working days a month.
So, the total working days required for entering 36,000 households is :

36,000 / 250 = 144 working days, or 144 / 26 = 5.5 working months.

Therefore, it is suggested to use the services of 2 data entry technicians for 3 months. The data entry technician to be recruited for the longitudinal survey (see under 1.5. of this section) will assist the personnel of GK in entering these household data.

1.2. **Cognitive study**

The cognitive study will be conducted by the members of the investigator team. Secretarial support will be required. It will continue throughout the other phases of the study.

It is expected that the cognitive study will take about 4 months. It will be conducted simultaneously with the sampling procedure.

1.3. **Longitudinal survey**

As mentioned above, the duration of the longitudinal survey is proposed to be 6 months, excluding one month of baseline survey. Training of the interviewers in the use of the survey questionnaires may take 3 weeks. Field testing of the latter, analysis of the field test results including revisions may involve another 3 weeks.

It is assumed that there will be one new illness per household per visit. This means 787 x 2 = 1,574 new illnesses to be followed up a month, or. As said earlier, it is expected that one interviewer may be able to conduct 9 interviews a day. This means 1,574 / 9 = 175 person working-days per month, or 157/26 days = 6.7 interviewers. In the section on 'Case studies' hereunder, it has been calculated that 1.03 supplementary interviewer is required to conduct these case studies. The total number of interviewers to be recruited for conducting simultaneously the longitudinal survey and case studies becomes thus 7.73, say 8.

Using the same assumptions as above for the longitudinal survey, these 8 interviewers are able to conduct the baseline survey in about 2 to 3 weeks time.

The supervision of these interviewers in the field will be ensured by one Field Supervisor and by the investigators as per requirement.

Selection and training of interviewers and field supervisors

As mentioned above, women will be selected. The required educational level is BSc Bachelor in Science or BA Bachelor of Art with two or three years of field experience.
As said earlier, a 3-weeks training course is proposed in the use of the questionnaires, in communication skills and qualitative interviewing techniques.

1.4. Case studies

As mentioned earlier, the total proposed number of case studies is 100 and they will be conducted during the longitudinal survey. It is estimated that one interviewer can conduct and transcribe about 13 case studies interviews a month. This means 100/13 = 7.7 interviewer-months. This means that a supplementary number of 7.7/7.5 = 1.03 interviewers is required.
A training of about 2 weeks will be required to introduce the interviewers in the specific methodology for conducting case studies. The interviewers will further need 2 to 4 weeks to prepare the guidelines for each of the areas of interest of the case studies.

1.5. Data entry and analysis, report writing

1) The secretary to be recruited for the whole duration of the study will be responsible for typing into the computer of the findings of the **cognitive study**. As mentioned above under 1.1., two data entry technicians will be required for entering the data needed for the sampling procedure.

2) One data entry technician will be required to enter the data of both the socio-economic/demographic and the illness surveillance systems of the **longitudinal survey**. He/She will also be responsible of the sorting process of all the questionnaires. The total duration of the data entry process is expected to be 10 months, starting from the month of the baseline survey.

3) For the **case studies**, the translation work will be contracted out to professional translators of Dhaka University. The typing into the computer of the translated copies is proposed to be done by a short term secretary. It is expected that about 3 case studies can be typed and checked a day. This means 100 / 3 = 33 secretary-days, which makes for 1 secretary about (33 / 24) about 1.5 months. As mentioned above, transcriptions of the case studies from the tape recorders will be done by the interviewers.

4) Data analysis and report writing will be performed by the team of investigators. They will also elaborate all the programmes for data entry.

2. REQUIREMENTS IN SUPPLIES

Four tape recorders will be purchased for the cognitive study as well as for conducting the interviews of the case studies.

Minor office supplies such as paper, pens, editing material, etc have been estimated for all the study components combined.The number of questionnaires required for the longitudinal survey is :

- for the illness surveillance :
  - -expected number of illness episodes : 1,574 x 6 months= 9,444.
  - -and assuming the use of on average 2 health care alternatives per illness episode, we obtain a total number of health care utilisation questionnaires of 9,444 x 2 = 18,888.
- for the socio-economic/demographic surveillance :
  - -baseline survey questionnaires : 787
  - -update forms : 787 x 6 = 4,722.

The questionnaires for the longitudinal survey will be the same as the ones used for the study on "Health care use patterns of slum-residents in Dhaka-City, Bangladesh" that has been conducted in 1993 by some of the authors of the study proposed here. They have been translated and tested for translation accurary for the previous study. As the study presented here will be carried out in another study population, their content and translation will be adjusted where required.

GK does not dispose of a SAS statistical software. Taking a one year license for SAS package will thus be required. Purchase of a FoxPro software package is planned. It is also proposed to purchase a computer IBM-compatible with 486 processor and minimum 50 MHz speed. This is to allow appropriate analysis of the data of the present study at the GK Health Project Office in Savar, and, more generally to upgrade GK's institutional research capacity. GK will provide 2 computers for entering the data of the study.

A notebook IBM-compatible with 486 processor and minimum 33 MHz speed will be purchased for the investigators located at ICDDR,B.

ANNEXES

Annex 1. **Consent form and details on procedure for maintaining confidentiality.**

Consent form

I have come from the International Centre for Diarrhoeal Disease Research, Bangladesh in Mohakhali, Dhaka.

We are conducting a study on the types of health care people seek when they are ill and on the reasons why they make those particular choices.

During six months we intend to visit you every two weeks to record data on this issue for every illness episode which will occur.

We also would like to ask you some questions about yourself, your family and your living conditions.

Each interview will take about 30 minutes. All the information collected will be kept confidential. There are no risks for you in participating to this study.

We are requesting you to take part in this study. You have the option to accept or to refuse participation. You may withdraw from the study at any later period.
If you agree, you may please sign your name or give left thumb impression on this form.

Signature of the interviewer	Signature or left thumb impression of the interviewee
Date	Date

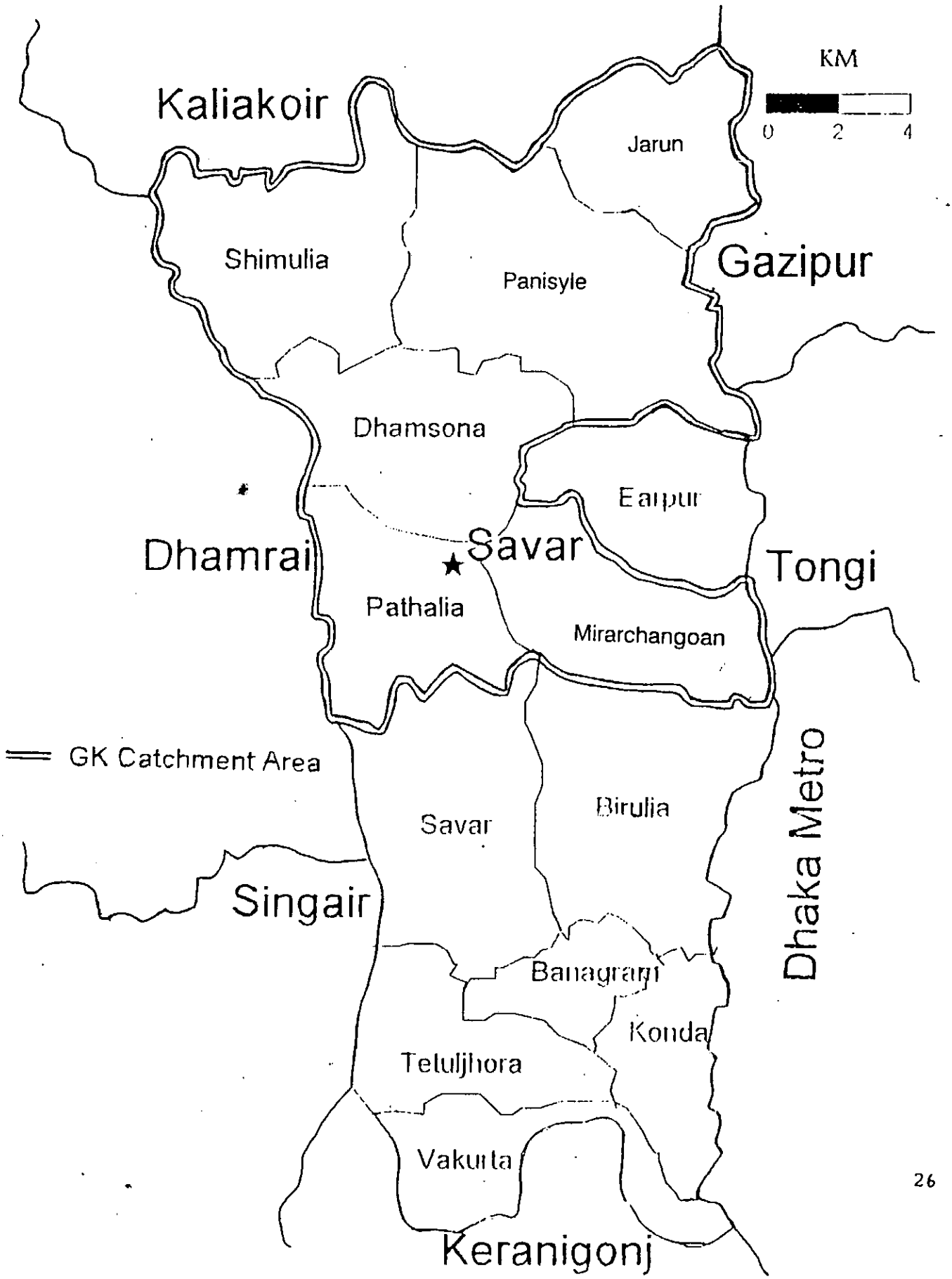
Details on procedure for maintaining confidentiality

1. During the training of the interviewers and field supervisors emphasis will be given on the aspects of confidentiality in handling data of the survey.
   Special attention will be addressed to the use and communication of any personal data of the households under investigation or their members.

2. The data that will be collected will be kept in a locked place.

3. Computer files containing the data will also be maintained in a secure and locked place.

Annex 2. Map of the Savar Thana and the Catchment Area of the GK health system



Annex 3.1 **Detailed sampling procedure.**

I. STUDY POPULATION

1. The data presented here are taken from the GKHP Management Information System's Monthly Report of September 1994.

2. The total population for the 6 unions of the GK Health System Catchment Area is 159,752, whereas the total number of households (HHs)[1] is 35,909. The average number of members per household stands thus at 4.4488.

Detailed population and household figures by union and by health insurance status

Union	Insured			Non-insured		Total		
	Pop	%	#HH	Pop	#HH	Pop	#HH	pop/HH
1. Pathalya	6,612	25.8	1,475	19,059	4,252	25,671	5,727	4.48
2. Dhamsona	10,754	33.4	2,373	21,428	4,728	32,182	7,101	4.53
3. Panisyle	6,744	26.0	1,516	19,151	4,305	25,895	5,821	4.45
4. Jarun	9,894	29.4	2,300	23,792	5,531	33,686	7,831	4.30
5. Shimulia	8,198	36.2	1,845	14,449	3,252	22,647	5,097	4.44
6.Mirarchangoan	4,995	25.4	1,100	14,676	3,232	19,671	4,332	4.54
Total	47,197	29.5	10,609	112,555	25,300	159,752	35,909	4.45

3. Observations :
-only about 30% of the total population has subscribed to the insurance scheme.
-amongst the unions, there are substantial differences in insurance status. There are also slight differences in the average number of members per household.

4. Subscription fees are based on the household, not on the number of HH members.

5. The population has been subdivided into 4 socio-economic categories by the GK Health System. They determine the levels of contributions to the health insurance scheme and of co-payments. These categories are constructed as follows :
-'destitute' : neglected widow or widow from a landless family, women abandoned by

[1] A household is defined as the household head, his/her spouse, dependent father and mother of the household head and his/her spouse, and the unmarried children of household head and spouse. So, more than one 'household' may eat from the same cooking pot.

husband, beggar, mentally and physically disabled.
-'poor' : landless farmer (less than 1 acre land), door-to-door vendor, daily wagers, all other households with no regular income source. So, those families who cannot afford 2 meals a day
-'middle-class' : farmer with 2 to 3 acres of own land, keepers of permanent small shops in the market place ('paan' store), permanent labourers in industry, office menials (eg clerks), owner of three rickshaws or boats. So, those households who can afford 3 meals a day and cover other basic needs such as clothing, but who do not have any savings at the end of the year.
-'rich' : big shops and business, farmers holding more than 3 acres of land, middle and upper class officers and private professions such as engineer, college teacher, doctors ; combination of 2 or more indicators of the 'middle class' category. So, HHs that are able to take 3 meals, to cover all basic needs and to gather savings at the end of the year.

II. SAMPLING PROCEDURE

II.1. Introduction

1. According to the health team of the GK Health System, there are marked differences amongst the unions in the availability of health care resources other than those belonging to the GK Health System. There is a parallel government run health infrastructure, including a small Referral Hospital of 30 beds but without surgical facilities. Additionally, some unions are further away from the GK Referral Hospital than the others. Health care resource availability and geographic accessibility are known to be an important determinant in health care use.

2. Similarly, the observed union-wise differences in proportions of population who subscribed to the GK insurance scheme may be considerably associated with health care seeking.

3. Finally, socio-economic status is known to substantially influence health care choice making. As mentioned above, for their insurance scheme, the GK Health System has subdivided the study population into 4 socio-economic categories.

4. Therefore, it is suggested to stratify the study population for the following variables:
   -union 2 substrata (one substratum comprising the unions near to the GK hospital, namely Dhamsona, Pathalya and Mirarchangoan, and the other substratum comprising the other three unions, namely Shimulia, Panisyle and Jarun)
   -health insurance status 2 substrata
   -socio-economic status 4 substrata
   The total number of substrata becomes then 2x2x4 = 16.

5. Each household of the catchment area of the GKHP is registered with the Health Information System of the GK Health System : the information of each household is kept on a Card of which a copy is available at the GK Hospital in Savar : it contains all information on the variables required for stratification. These cards are updated on a monthly basis.
   All information required for the sampling procedure will be entered into the computer (see further for the format).

6. In the GK Health System's Catchment Area there are 173 villages with a number of HHs per village ranging from about 100 to 500.

So, the format for the substratum lists becomes :
SUBSTRATUM OF UNIONS : _____
INSURANCE STATUS : _____
SE CATEGORY : _____

Sl# Vill	Name Village	Sl# HH	HH particulars		selec ted ?
			Name Head	Location/Address	
Total	-		-		

II.2. Suggested procedure : stratified one-stage sampling

1. As mentioned above, the study population will be stratified according to :
   -union 2 substrata
   -health insurance status 2 substrata
   -socio-economic status 4 substrata.

   So, we obtain a total number of 16 substrata represented in HH lists sorted by village.

2. Referring to the sample size calculation (see section 3.2.2. in the chapter on Aspects of sampling and Annex 3.1), we need to select a sample of 787 HHs.

3. These HHs will be assigned to the 16 substrata with **PPS**.

4. Subsequently, in each substratum the required number of HHs will be selected by **systematic sampling**.

Annex 3.2. **Some details on sample size calculation.**

Table of illness episode incidences for examples of illnesses under investigation and for different numbers of populations

The following assumptions have been considered (partially based on the findings of the Health Information System of the GK Health Care System) :

- the duration of the study (six months)
- population structure :
  - 16% as the proportion of children under 5
  - 40% as the proportion of children under 12
  - 50% as the proportion of adults (above 15 years old)
- the number of illness episodes per child under 5 per year :
  - 3 for diarrhoea
  - 3 for fever
  - 3 for ARI
  - 0.8 for ear infection
- the number of illness episodes per child under 12 per year :
  - 1 for dysentery
  - 0.4 for ear infection
- the number of illness episodes per adult per year :
  - 2 for diarrhoea
  - 1 for ARI
  - 2 for fever
- the number of illness episodes per year for the whole of the study population :
  - 0.3 for skin diseases
  - 0.2 for injuries (all types)

Age/pop group	% pop	Health problem	ILL Epis/ inhabitant	# ILL Episodes/6 months		
			/6mths	pop=2,000	pop=4,000	pop=6,000
<5 yrs	16%	Diarrhoea	1.5	480	960	1,440
		ARI	1.5	480	960	1,440
		Fever	1.5	480	960	1,440
		Ear infection	0.4	128	256	384
<12 yrs	40%	Dysentery	0.3	240	480	720
		Ear infection	0.2	160	320	480
>15 yrs	50%	Diarrhoea	1	1,000	2,000	3,000
		Fever	1	1,000	2,000	3,000
		ARI	0.5	500	1,000	1.500
All	100%	Skin disease	0.15	300	600	900
		Injury	0.1	200	400	600

Annex 4 **Guidelines for interviews with key informants**

GUIDELINES - DISEASE CLASSIFICATION AND MANAGEMENT : Female and Male key informants of the study population

INTRODUCTION

(I) The purpose of this interview is to investigate the main health disorders in the community, their perceived causes, the ideal sources of treatment for different kinds of disorder and the problems people face in obtaining treatment.

(II) The respondent has been selected because of his\her special knowledge, expertise of experience of health or community.

(III) The interviews will require some concentration and time and peace. Discuss with respondent where he or she would be most comfortable and make transport arrangements if necessary ; interviews could be conducted either in the respondents' home or in the office.

1. List the names of common illnesses in this community.

2. List the symptoms and the cause(s) of each type of these illnesses?

3. Who mostly suffers from each of these?

4. How should each illness be treated ? and why?

5. Should outside treatment be sought for the illnesses mentioned in the answer on question 1? If yes, what kind and why?

6. What are the main problems in obtaining each kind of treatment?

7. Women and female patients are admitted to treatment centres less often than men. Why do you think this is?

Annex 5.1. **Illness and First Health Care Resource Questionnaire**

usehold No.: |_|_||_|_|_|_||_|_||_|_| Date:_____ Interviewer:_____

me:_____ Id #:____ Respondent Id #:_____Resp.alone?:Y/N

#	QUESTIONS	ANSWERS
1.	Date of onset of illness episode (fill dd/mm/yy)	__/__/__

2.Type of illness	Probed? Yes/No	Cause	3.Severe/ trivial	Mental/ physical
1)_____		_____		
_____	1 / 2	_____	1 / 2	1 / 2
2)_____		_____		
_____		_____	1 / 2	1 / 2

4.	What did you **FIRST** do to combat the disease..... (Use list of Health care resources or write down if not in list)..... If possible :Name and address or specify location of HCare resource :_____ _____ _____	_____ _____
5.	Why did you choose this resource... (use the list of criteria or write down when not in list ; fill from most to less important)	1._____ 2._____ 3._____ 4._____ 5._____

5. Who did decide to take this Health care resource (encircle) :

Codes: 1 Patient
2 Mother
3 Father
4 Parents
5 Wife
77 Other_____
6 Husband
7 Mother-in-law
8 Father-in-law
9 Grand parents
10 Other family members
11 Neighbours/relatives

7. Why did you NOT choose other Health care resources (use list of constraints or write down when not in list)

1. "wait and see".....
2. self care(personal,family,commun)
3. pharmacy.....
4. govt -union subcentre/satellite clinic
   -thana hospital.....
5. private -allopath doctor.....
   -clinic.....

ısehold No. |_|_||_|_|_|_||_|_||_|_| Date:_____ Interviewer:_____

ıe:_____ Id #:____ Respondent Id #:_____

6. GK -subcentre/satellite clinic..
   -hospital.....
7. homeopath.....
8. kobiraj.....
9. spiritual psychologist.....
10. free treatment centre.....

(Fill YES=1, NO=2, DON'T KNOW=3 ; or as appropriate)

a. Were you satisfied with the effects of the chosen health care resource ?..... ____

Why (use list of service characteristics, or write down if not in list ; fill from most to less important)
1_____
2_____
3_____
4_____

b. Did you have to travel to get the treatment ?..... ____
If YES, how long ? (fill minutes) _____ min

c. Did you have to wait at the place of care before getting treatment ?..... ____
If YES, how long ? (fill minutes) _____ min

d. Did the people listen to what you had to say ?
At the reception ?..... ____
During the consultation ?..... _____

e. Were you able to understand what the healer said to you about your complaints and the treatment you had to take ?..... _____

f. Do you feel that you have been well treated ?..... ____

How much did you have to pay in taka for

1. Travel..... _____
2. Entrance ticket..... _____
3. Consultation(s)..... _____
4. Drugs tablets|_|syrup|_|injection|_|ointment|_| _____
   other_____|_|.....
5. Surgical intervention_____..... _____
6. Hospitalisation..... _____
7. Technical procedures & tests (specify)
   a. First/decided by..... ___/___
      cost ?..... _____
   b. Second/decided by..... ___/___
      cost ?..... _____
   c. Third/decided by..... ___/___
      cost ?..... _____
   d. Fourth/decided by..... ___/___
      cost ?..... _____
8. Other purposes (specify_____).cost?.. ____

usehold No.: |_|_||_|_|_|_||_|_||_|_| Date:_____ Interviewer:_____

me:_____ Id #:____ Respondent Id #:_____

0.	How did you cover these expenses ? (fill how much has been used) -with cash money..... -with savings..... -with loans from -relatives..... -friends..... -office/employer..... -money lender..... -with grants from office/employer or others..... -with sale/mortgage of sale=1,mortg=2 -poultry/birds..... -livestock..... -crop..... -ornaments..... -others (specify)_____	 _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
1.	Did you (or the ill person) use any other health care resource at the same time or after having used used the first health care resource	YES 1-->Quest subseq.HC Res NO 2-->Q12
2.	a. Is the sick person still ill ? (YES=1 ; NO=2)..... If NO : fill date of end of episode (dd/mm/yy)..... If YES : 1) write down the reason why health care is no longer sought : _____ _____ _____ 2) write date of visit.....	___ ___/___/___ ___/___/___
	b. # of working days lost by : - the ill person..... - other HH members : - Head HH..... - Father..... - mother (if working)..... - others.....	 ____ ____ ____ ____ ____

Annex 5.2. **Subsequent Health Care Resource Questionnaire**

usehold No.: |_|_||_|_|_|_||_|_||_|_| Date:_____ Interviewer:_____

me:_____ Id #:____ Respondent Id #:_____

#	QUESTIONS	ANSWERS
1.	a) Repeat date of onset of illness episode..... b) **Health care resource #**.....	__/__/__ ___
2.	Used (Together=1, After=2).....	_____
3.	Were you sent to this HCare resource by the first HCare resource (YES=1, NO=2).....	_____
4.	Type of HCare resource (see list of HCare resources) If possible :Name and address or specify location of HCare resource :_____ _____ _____	_____
5.	Why did you choose this resource...1._____ (use the list of criteria or write 2._____ down when not in list ; fill 3._____ from most to less important) 4._____ 5._____	
6.	Decided by (see Q6 for codes).....	_____
7.	Why did you NOT choose other Health care resources (use list of constraints or write down when not in list) 1. "wait and see"..... 2. self care(personal,family,commun) 3. pharmacy..... 4. govt -union subcentre/satellite clinic -thana hospital..... 5. private -allopath doctor..... -clinic..... 6. GK -subcentre/satellite clinic.. -hospital..... 7. homeopath..... 8. kobiraj..... 9. spiritual psychologist..... 10. free treatment centre.....	

sehold No.: |_|_||_|_|_|_||_|_||_|_| Date:_____ Interviewer:_____

e:_____ Id #:____ Respondent Id #:_____

(Fill YES=1, NO=2, DON'T KNOW=3) a.Were you satisfied with the treatment effects of the chosen alternative ?.....	____
Why (use list of service characteristics, or write down if not in list ; fill from most to less important)	1_____ 2_____ 3_____ 4_____
b.Did you have to travel to get the treatment ?..... If YES, how long ? (fill minutes).....	____ ____
c.Did you have to wait at the place of care before getting treatment ?..... If YES, how long ? (fill minutes).....	____ ____
d.Did the people listen to what you had to say ? At the reception ?..... During the consultation ?.....	____ ____
e.Were you able to understand what the healer said to you about your complaints and the treatment you had to take ?.....	____
f.Do you feel that you have been well treated ?.....	____
How much did you have to pay in taka for 1. Travel..... 2. Entrance ticket..... 3. Consultation(s)..... 4. Drugs tablets|_|syrup|_|injection|_|ointment|_| other_____|_|..... 5. Surgical intervention_____..... 6. Hospitalisation..... 7. Technical procedures & tests (specify) a. First/decided by..... cost ?..... b. Second/decided by..... cost ?..... c. Third/decided by..... cost ?..... d. Fourth/decided by..... cost ?..... 8. Other purposes (specify_____).cost?..	 _____ _____ _____ _____ _____ _____ _____ ___/___ _____ ___/___ _____ ___/___ _____ ___/___ _____ ____

ɔusehold No.: |_|_||_|_|_|_||_|_||_|_| Date:_____ Interviewer:_____

ame:_____ Id #:____ Respondent Id #:_____

10.	How did you cover these expenses ? (fill how much has been used) -with cash money..... -with savings..... -with loans from -relatives..... -friends..... -office/employer..... -money lender..... -with grants from office/employer..... -with sale/mortgage of sale=1,mortg=2 -poultry/birds.....|..... -livestock.....|..... -crop.....|..... -ornaments.....|..... -others (specify)_____|_____	_____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____
11.	Did you (or the ill person) still use another health care resource ? (YES=1, NO=2)..... If YES : fill questionnaire "subsequent health care resource" If NO : go back to question 12 of illness episode questionnaire	___

Annex 5.3. Household Baseline Survey Questionnaire

e:_____ Interviewer:_____ Respondent Id #:_____
sehold No.:_____ Religion:_____ Ethnic Group:____

Demographic data

	Name	DOB	Sex	MS	REL HH	Mo Id #	Fa Id #	Hu Id #	EDUC	Health Provider's Info			
										Hlth Prov	Kind trt	Trnd by	DUR

2.Household Expenditure :

Rice (kg/day):_____(Tk./day)...:_____
Food (Tk./day).....:_____
Education(Tk./month).....:_____
Health care (Tk./month).....:_____
Clothing&Bedding (Tk./_____)...:_____
House rent (Tk./month).....:_____
Gas (Tk./month)..... .....:_____
Electricity (Tk./month).....:_____
Water (Tk./month).....:_____
Sanitation (Tk./month).....:_____
Occupation rel. expenses(Tk/month.:_____
Other expenses(Tk./month).....:_____
(specify_____
_____

ate:_____ Interviewer:_____ Respondent Id #:_____ HH No_____

ousehold No.:_____

3. House Ownership

Owned..... 1
Rented..... 2
Squatter..... 3
Caretaker..... 4
Other_____ 7

Land Ownership: Y/N

	Size	*Unit*
URBAN:	_____	_____
RURAL:	_____	_____

4. House Construction

	Roof	Wall	Floor
Jhupri.....	1	1	1
Bamboo.....	2	2	2
Wood.....	3	3	3
Tin.....	4	4	4
Mud.....	5	5	5
Pucca.....	6	6	6
Other.....	7	7	7
	_____	_____	_____

#rooms_____

5. Assets (in no.)

Fan....:_____
TV.....:_____
Radio..:_____
Cycle..:_____
Table..:_____
Bed....:_____
Watch..:_____
Cookpot
-AluCu.:_____
-earth.:_____
Other_____
_____
_____
_____

5. Water

Source	Drink	Cook	Wash
Tap.....1	1		1
Tubewell..2	2		2
Well.....3	3		3
Pond/river4	4		4
Other.....7	7		7
	_____	_____	_____
Shared by:			
HH.members.	1		1
Comm.people.	2		2
# households sharing...	_____		_____

7. Latrine

Type	>=5 yrs	<5 yrs
Con.sewerage....	1	1
Con.septic tank.	2	2
Con.open area...	3	3
Pit with ring...	4	4
Dughole.....	5	5
Hanging(open)...	6	6
No fixed site...	7	7
Others_____	8_____	8
No child.....	-	9
Shared by:		
HH.members.....	1	1
Comm.people.....	2	2
# households sharing.....	_____	_____
# latrines.....	_____	_____

8. Fuel

Type
Gas..... 1
Kerosine.... 2
Firewood.... 3
Cow-dung.... 4
Garbage/Misc scraps.. 5
Dried leafs/ or coconut. 6
Other_____ 7

Date:_____ Interviewer:_____ Respondent Id #:_____ HH No:_____

Household No.:_____

ID #	Name	9.P/BF STAT	Date	GRAVI	10.Occupation & Income Pri Src	Prim.Income Unit (d/w/m)	#of U	taka /unit	Secon Srce #1	#2	Sec.Inc#1 Unit	#	taka /unit	Sec.Inc#2 Unit	#	taka /unit

Annex 5.4. **Socio-economic and Demographic Update Form**

Part I - Socio-demographic events update

The information structure of the demographic events is given here-under. It will be updated for each member of the households under investigation :

Type of event	Event #	Date	Data #1	Data#2	Data#3
Migration-in	1	Migrated in	Source	Reason	-
Migration-out	2	Migrated out	Destination	Reason	-
Remigration	3	Remigrated	Reason	-	-
Change of relation to HH	4	Changed relation	New status	-	-
Change of marital status	5	New marital status	New status	-	-
Change of Pregnancy status	6	New pregnancy status	New status	-	-
Pregnancy outcome	7	Delivered/ miscarriage	Outcome type	Delivery practice	Conducted by
Change of feeding status	8	Started new food	New status	-	-
Death	9	Died	Cause of death	Place of death	Attended by

Part II - Economic data : individual income data and household monthly expenditure

ID #	Name	1. Occupation & Income											
		Pri Src	Prim. Income Unit (d/w/m) #of U		taka /unit	Secon Srce #1	#2	Sec. Inc#1 Unit	#	taka /unit	Sec. Inc#2 Unit	#	taka /unit

2. Household Expenditure :

Rice (kg/day) ....:_____
Food (Tk./day) .....:_____
Education(Tk./month) .....:_____
Health care (Tk./month) .....:_____
Clothing..... (Tk./_____) ....:_____
House rent (Tk./month) .....:_____
Gas (Tk./month) ....:_____
Electricity (Tk./month) .....:_____
Water (Tk./month) .....:_____
Sanitation (Tk./month) .....:_____
Occupation related expenses.....:_____
Other expenses(Tk./month) .....:_____
(specify_____
_____

Annex 6 **Outline for data analysis and expected outcome.**

EXPLANATORY AND RESPONSE (OUTCOME) VARIABLES UNDER INVESTIGATION

Explanatory variables :

- of the sick subject and the household to which she/he belongs :
  - -age, sex, marital status, household size, status in household (demographic)
  - -religion, ethnic group, (cultural)
  - -occupation, assets, availability of cash (economic)
  - -formal education, interaction with family and neighbours (social)
  - -subscription to the GK health insurance scheme
- of the disorder (as perceived by subject)
  - -severe or trivial
  - -mental or physical
- of the service
  - -objective geographical accessibility and type of service
  - -perceived accessibility : geographical, opening time, waiting time, type of service, fees/fares charged
  - -patient's satisfaction : expected benefits of treatment, healer-patient communication, technical level of service

Response (outcome) variables (indicative) :

- -modern healers (public and private, allopathic qualified and unqualified, community-based and referral levels)
- - homeopathic
- -traditional healers (fakir [spiritual], kobiraj [herbal], TBA)
- -drug seller
- -self care
- -no action.

Components in health care decision processes under investigation

To be identified during the first stage of the study (cognitive study) and tested during the longitudinal survey :

- -criteria including constraints to choose health care amongst the health care alternatives available to the study population
- -principles for ranking of these criteria
- -health care alternatives that the study population perceives as being available

OUTLINE OF DATA ANALYSIS

I. *Choice of Health Care resource (OUTCOME)* associated with *variables* related to
- subject
- household
- disorder
- health care option (perceived)

1) descriptive part : 2xc or rxc tables :

- categories of OUTCOME : see above

- categories of explanatory variables :
  - -binary : eg sex; acute vs chronic, severe vs trivial disorder
  - -categorical : eg marital status; income; location health service
- analysis : frequencies.

2) analytical part : 2x2 tables or rx2 tables :

- in accordance to results of 1) : regrouping of variable categories where appropriate into binary variables.
- analysis : - χ^2 and where appropriate χ^2 for trend
  - multivariate analysis of variables where association.

Sample size : based on calculation of proportions, choice per (group of)Health Problem(s).

II. Health Care decision processes :

1) descriptive part : Health care decision processes determined by :
- criteria (incl constraints) to choose
- principles to prioritise criteria
- health care alternatives available to study population
- qualitative & quantitative analysis

Sample : key informants, longitudinal survey

2) analytical part : validity testing of the relative importance of criteria:
- on different subsamples of I. according to different (groups of) health problems
- quantitative analysis : each illness episode will be scored on each criterion relevant to it, and the actual treatment choice(s) made compared with the one predicted through the key informant interviews. With the same method reasons for non-use (constraints) will be analysed.

EXPECTED OUTCOME

1. Study population

categorisation of the non-slum residents by different socioeconomic and cultural indicators.

2. Health problems occurring in the study population

categorisation of the health problems as they are perceived by the study population
by socio-economic indicators of the study population

3. Provision of health care.

categorisation of health care resources
by type of delivered health care
by type of supplier
by indicators of accessibility
by indicators of patient's satisfaction

4. Health care user costs

Direct costs

-average cost per illness episode, by type of illness, for different illness categories
-average cost per illness episode, by type of illness, by cost-item, for different illness categories
-average cost per health care resource, by type of illness, by health care resource, for different illness categories
-average cost per illness episode, by socio-economic variables, by type of illness
-annual user expenditure per inhabitant, per household

Indirect costs

same analysis plan as for direct costs

Total user costs

same analysis plan as for direct costs

5. Development of health care decision processes

using criteria, principles for their ranking, and the health care alternatives available to the study population : by (groups of) health problems

6. Choice of health care resource

by indicators related to the sick subject
by factors related to the household to which he belongs
by factors related to the disorder (as perceived by study population)
by factors related to the service

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Reviewer 1

Title: "Health care patterns in the catchment area of Gonosasthn Kendra Health Care System in Savar and Gazipur thanas, Bangladesh."

Proposal Assessment:

The purpose and objectives of this proposal on health seeking behavior and health care utilization are important; the outline and the overall approach is generally useful. However, there are some aspects that would benefit from further consideration.

Background:

The principle investigators apparently are carrying out similar studies in other populations in Bangladesh; it would have been useful to have a brief summary of the results from these and any problems that they have had to overcome. Presumably, the present design incorporates knowledge gained from these other studies. What does this proposal contribute that will go beyond that from the other similar studies?

Purpose:

The rationale for conducting the study would be stronger if the purpose (aim) were put in terms of how the results of this study will be used and what kind of decisions they might affect.

Type of study and sampling:

This study is a fact-finding, descriptive study. Since there is no specific hypothesis to be tested, the sample size, fundamentally, depends upon how much information one wants to get on the many different sub groups. The basic unit of the study is the household and therefore the sampling should be done based upon households rather than individuals. The rationale for their sample size selection is not strong, but 700+ households as selected is probably reasonable and is in the order that can be done. However, with 48 strata they must be sure that there are enough in each strata - or at least of any strata considered of special importance.

The purpose and rationale for the case study part is not clear and I don't understand what further information will be obtained. Again this seems strictly a descriptive study and so, too, there is scant rationale for sample size. In the early part of the paper it states that the case studies will be carried out on specific health care seeking and illness experiences reported from the longitudinal survey, but later on it seems to be limited to delivery care; that's quite all right but it should be clarified in the early part and the reasons given. Further there might be special interest in those deliveries that are complicated and require special care. If so a different design will be required - perhaps a case-control approach.

The nature of illness/disability:

The proposal focusses on episodes of illness, but especially for chronic disease or disability it will be important to look at the illness as a whole and look at costs and consequences for the entire disease process. Thus, in addition to per episode costs and consequences, it would be useful to look at total costs and consequences of the disease perhaps on an annual basis. I hope the investigators will look at and assess all forms of disability.

Demographic aspects:

I doubt that this study requires the excellent, but elaborate demographic methods used by Matlab but I assume that the experience gained there will be put to use in this study. I have some concerns based on the percentages given in Annex 3.2: 13% in the 0-4 [5 years]; 32% in the 5-11 [7 years]; and 5% in the 12-15 [4 years] groups.

The costs:

The weakest part of the study are those concerning the costs and the economics analysis. The forms on household expenditures and on economic data seem quite inadequate and I would urge that they seek help in this area. They must carefully work out the purpose of this aspect of the study. Is it to truly determine the costs and consequences of disease and disability, or is it to examine the effects of the perceptions of costs for obtaining care from various sources on health- seeking behavior? It is the latter that would best fit this study, but they will need to carefully work through how best to pursue this. To truly examine costs and consequences of disease and disability would require a different framework and certainly a different study design. I believe that would entail a different study.

The real value of this study is to obtain perceptions from the household as to what the nature of the illnesses are and what they do about them. This is the central thrust of the thesis and looks like this aspect is well considered.

Summary:

This is potentially an important study but the investigators need to clarify: (1) just how policy makers will make use of their findings and (2) how this study further contributes to understanding health seeking behavior beyond the studies they are presently carrying out. Certainly the presence of the health insurance scheme in the GK Health Care System - which apparently is not in place in the other study settings - could well merit close examination and justify this study. But this point is hardly mentioned explicitly and the design, or at least aspects of the analysis, could be strengthened to focus on the differences that the insurance scheme makes in health care seeking behavior.

Reviewer 2

The researchers responses to my earlier review are thorough and thoughtful, if a little general. I accept the point that health care seeking behaviour is dependent on local circumstances and so investigation that explores those circumstances is important for policy-makers. Some of the changes in wording that are suggested will also move the study closure towards considering the links between utilization and the way in which the GK system is financed, which will again be useful for policy makers. I remain certain that the study will be thoroughly and carefully undertaken.

My major continuing concern is that the policy relevance of the data collected, and the forms of analysis that will ensure policy relevance, have not been sufficiently clearly identified. How, for example, will this study complement the existing work on community based insurance in Africa (P.1 of researchers' responses)? How will the study explore the practicality of the GK system of health care financing? Answers to these questions need to be taken forward into study design - including the specific questions that will be used in the household survey. I emphasise this point because of a general concern that health systems research studies are often inadequately tied to important, local policy issues - yet, for me, that should be their primary focus in order to ensure that they directly contribute to national policy debates.

I recommend that the researchers encouraged to re-consider these issues as they take forward the study, but am sure that the study can contribute to understanding of the relevant issues if further thought is given to them.

Study Proposal, entitled :
"Health Care Use Patterns in the Catchment Area of Gonosasthya Kendra Health Care System in Savar and Gazipur Thanas, Bangladesh"

Reply to the reviewers' comments.

I. ON THE COMMENTS OF REVIEWER 1.

The authors have taken the same headings that have been used by the reviewer in his comments.

1. BACKGROUND :

The reviewer mentions that similar studies as the one proposed for approval by the Research Review Committee, have been completed. In fact, up to date only one such study, namely on health care seeking in the slum population of Dhaka-City, has been completed. Another one in the non-slum population is in its initial stage of field implementation.

1.1. A brief summary of the ***results*** in terms of main findings and their policy implications of the study on health care utilization by the slum population of Dhaka-City has been attached to this Reply. Please find this summary in Annex 1.

1.2. Knowledge gained on ***problems*** encountered in the first study has indeed been incorporated into the design of the present study. Hereunder are described problems encountered in the previous study, the solutions given at that time, and what is done in the proposed study to avoid these problems:

1)-Problem : There was only one junior social scientist full-time associated with the previous study. One senior scientist assisted with the write-up of the proposal and in the first phase of the study, after which she left the Centre. As a result this has created a vacuum in terms of specific expertise in social science, more specifically medical anthropology.

Solution : There was at that time no completely satisfying solution as the study was already ongoing in the field, and it was difficult to identify another medical anthropologist at that stage who could replace her. More responsibility had to be placed on the junior anthropologist, who upgraded herself quite considerably.

In the proposed study, it has been ensured that specific expertise in social and behavioural

sciences will be available on a continuous basis through the collaboration with a formal team of social and behavioural scientists, namely ICDDR,B's Social and Behavioural Science Programme.

2)-Problem : In the slum-study, it was felt that particularly in the initial phase of the survey, it was hard for the interviewers to complete 10 household visits a day.
For the proposed study, the number of household visits to be conducted a day during the longitudinal survey, has been decreased by 10%.

3)-Problem : In the previous study, the case studies were conducted after completion of the longitudinal survey. As a result there was a loss of some households, and recall by the respondents was difficult as the time gap was considerable.
Solution : The lost households were replaced out of the household sample of the longitudinal survey by other households fulfilling the requirements of the particular category of cases where the loss had occurred. In order to decrease as much as possible the loss of recall, the interviewers visited several times the respondents to allow them to remember the events under investigation.
In the proposed study, the case studies will be conducted during the longitudinal survey. Therefore, special interviewer-time has been added in the calculation of the number of interviewers required to conduct these case studies simultaneously with the visits for the longitudinal survey. This approach of solving the problem appears in page 21 of the protocol, in section 1.3. of the study's personnel requirements, entitled 'Longitudinal survey'.

1.3. The ***specific contribution*** of this proposal compared to the previous ones.

The present proposal - unlike the previous ones carried out or being carried out in the urban area - will investigate health care seeking in a rural population. The same questions will be addressed in the proposed study and the same methodology used as in the studies in the urban areas. This is done in order to make the findings of the three studies comparable. Two aspects however, are particular to the rural setting. Firstly, the setting selected for the rural study is in a peri-urban area which is rapidly changing, and, secondly the existence in this setting of a health insurance scheme, since the beginning of the 1970s established by the Gonosasthya Kendra Health Project ('GKHP'). The results of the proposed study are thus expected to be substantially different from those obtained from the studies in the urban setting.
Overall, all three of the studies will provide data on how, to what extent, why and at what cost the respective study populations use the health care options available in each one of the research settings.

The **contributions made by the first study** in the slums of Dhaka are in the fields of (1) recommendations to study the organisation of the public and private modern health care services; (2) possible financial contributions by slum dwellers to cover health care costs in public or other health services; (3) the need to redirect health care programmes from classical mother and child

health programmes to cover all household members; and (4) the need of cost-sharing schemes and credit programmes for alternative income generation in order to decrease the burden of illness on household income.
It should be noted that those fields could only be identified **after** that the study's results referred to above were known and properly analysed and discussed.

In contrast - in the absence of the results -, what at this stage can be stated about the **specific contribution of the proposed study** is :

1) At the local level : it will provide the managers of the GKHP with data on the aspects mentioned above of health care use (how, to what extent, why and at what cost) of the GK health care system itself or of other health care options available in the GK catchment area. These data will help them to adjust where necessary their policies, in order to better serve the covered population.
2) At the national level :
-the study's findings may enable national policy makers to estimate to what extent the GK health care system may be used as a model for other rural and/or peri-urban settings;
-because of fewer available resources, the bigger numbers of people still living in the rural areas, and the occurrence of specific social phenomena and lifestyles such as the restricted movement of women[1], the study's findings may provide new insights in the use of health care for illness in rural areas;
-with the findings of the three studies (the two studies in the urban setting, and the one proposed here), comparisons may be made between health seeking behaviour in urban and rural sections of the study populations for the dependent variables specified in the study proposal, e.g. between the urban and rural poor, or between rural and urban women. This information in turn may be used to assist in identifying sections of the populations studied that are currently under served.

2. PURPOSE.

The ***aim of the study*** to be put in terms of ***how the results of the study will be used*** and ***what kind of decisions they might affect.***

The authors address here the content of the general aim of the study.

In the aim of the study, it has been stated **at what levels** (i.e. the GK health care team and national health policy makers) the findings of the study may be used. However, it has **not** been mentioned how the results may be used, because this is - as mentioned above - a function of what

[1] Maloney C, Aziz KMA and Sarker PC (1981) "Beliefs and Fertility in Bangladesh", Monograph No. 2, International Centre for Diarrhoeal Disease Research, Bangladesh.

are the findings of the study. Similarly, it is hard to predict now what kind of policy decision may be affected by the findings, before the results of the study are available.

However, the authors agree that certain statements in the study's aim may lead to confusion. These are as follows :

-'to improve health care use and delivery', and

-the statement that the study aims at determining utility and economic practicality of the GK health care system.

These statements in the general aim cannot be fulfilled by the present study alone : other studies about the functioning of the GK health care system, including its funding base, and of its health insurance scheme in particular. These statements are now deleted.

Considering what precedes, the authors propose to rephrase the general aim of the study on p3 into the following :

"-to enable - through the assessment of the use of health care options in the catchment area of the GK health care system in Savar and Gazipur thanas - the GK health care team to adjust where required their existing policies regarding the organization of the health care system;

-to provide at the same time national health policy makers and managers with data on health care seeking in a rural area with a functional health care system."

3. TYPE OF STUDY AND SAMPLING

The authors agree with the reviewer that indeed this study is a fact-finding, descriptive study.

3.1. However, the ***basic unit of the study*** (the longitudinal survey) is not the household, but illness episode, as mentioned on p10 in the section on 'Sample size calculation', although households are used as sampling units. The authors are aware of the design effect this creates. Therefore, they have mentioned on p13 of the study proposal (in the section 'Arrangements for data handling and analysis') that wherever required, multilevel data analysis techniques will be applied.

3.2. There should be ***enough households in each stratum.***

The reviewer points rightly out that there may be strata with few households, and thus a limited number of households assigned to the study sample. The total number of households in the study population is about 36,000 (see p.2[illegible], Annex 3.1. under the section 'Study Population'). Given the distribution of the households according to the variables under consideration for stratification (union, health insurance status, and socioeconomic status), the following can be

estimated as an example (please see p27 of the study proposal for figures on the study population) :

The union with the lowest total population is Mirarchangoan (19,671 population). There are about 1,100 households insured who will have to be assigned to the four categories of socioeconomic status. In the assumption that the distribution is 15% destitute, 50% poor, 25% middle class, and 10% rich households, the smallest stratum may constitute 10% of 1,100 households, i.e. 110 households on a total of about 36,000, or (110/36,000)x100= .3%. The number of households that will be selected into the study sample from this stratum will thus be : 787 x .3 = 2 households, which is too small to be meaningful.

Therefore, the authors agree to decrease the number of strata comprising unions, from 6 to 2, i.e. (please see p26, Annex 2 for the map of the GK catchment area) the three unions located around the GK hospital being one stratum (Dhamsona, Pathalya and Mirarchangoan), and the others located at a distance constituting the second stratum (Shimulia, Panisyle and Jarun). The total number of strata becomes then 2 x 2 x 4 = 16, instead of previously 48.

Consequently, the authors suggest to change the following in the section about Sampling Procedure on pp29 and 30 :

.On p29, point 4., for variable 'union' :

"-union 2 substrata (one substratum comprising the unions near to the GK hospital, namely Dhamsona, Pathalya and Mirarchangoan, and the other substratum comprising the other three unions, namely Shimulia, Panisyle and Jarun)",

and a little further :

"The total number of substrata becomes then 2x2x4 = 16."

.on p30, on top of the page, instead of UNION :

"SUBSTRATUM OF UNIONS",

and, further in point 1, for the variable 'union' :

"-union 2 substrata",

and a little further :

"So, we obtain a total number of 16 substrata represented in HH lists sorted by village.";

and in point 3 :

"These HHs will be assigned to the 16 substrata with PPS."

3.3. The ***purpose and rationale for the case studies are not clear.***

The case studies have been included for the following reasons :

1. The longitudinal survey is conducted on illness. The study also intends to collect data on health care seeking and expenditure for delivery and abortion cases, because (1) households spend not only on curative care, but also on deliveries and abortions (preventive care is not charged, but there are some indirect user costs involved which are thus not included in the proposed study), and (2) there is a specific utilization pattern of health care options related to delivery cases. If any abortion case occurs, it will be taken

in the case studies for the same reason.

2. Complex specific health care seeking patterns - hard to fully understand only through the data of a longitudinal survey - such as chronic illness cases, hospitalisation cases (including the health care options used before hospitalisation), health care use prior to death will also be included in the case studies. To that effect, a sample of those cases will be randomly selected from the longitudinal survey as case studies.

The duration of the follow-up of those case studies will depend upon the nature of the case. For instance, for chronic cases, the duration of follow-up may coincide with the total duration of the longitudinal survey.

In order to make all this clear in the text of the proposal, it is suggested to change the following sections :

1. on p9 : section 2.3. on the case studies :

"During the longitudinal survey, a series of case studies will be carried out. Because the longitudinal survey is conducted only on illness, all delivery and abortion cases occurring in the longitudinal survey sample will be included in the case studies, and furthermore a series of cases with particular health care seeking behaviour experiences and user expenditure, such as hospitalisation cases, chronic illness cases, and use of health care prior to death cases. (the data of the longitudinal survey will be analyzed simultaneously with the progress of the survey)".

2. on p11 : section 3.3. on the case studies :

"It is suggested to conduct a total of about 100 case studies. Assuming a Crude Birth Rate of 32.9 pro thousand (Matlab 1990), the expected number of delivery cases in the longitudinal survey sample over the survey period of 6 months, is 58 delivery cases. The other case studies will be distributed over selected areas of specific health seeking behaviour, as specified above in section 2.3. on p.9. They will be randomly selected, where required, from the cases occurring during the longitudinal survey".

4. THE NATURE OF ILLNESS/DISABILITY :

-Importance of looking at chronic illnesses as a whole.

The authors fully agree with the reviewer that especially for chronic illnesses, the study should look at the entire disease process. It is amongst others for this reason that chronic illnesses have been taken in the case studies. This will be in addition to the data collected from the longitudinal survey, which will indeed be gathered 'per episode'.

5. DEMOGRAPHIC ASPECTS :

The percentages given in Annex 3.2. on p31 of the protocol (on 'Details of sample size calculation') have been given by the Gonosasthya Kendra Health Project from their health information system.

From the experience gained in Matlab[2] and elsewhere[3], the following estimations are proposed to be used instead : 16% (<5 years); 40% (<12 years); and 50% (>15 years). Annex 3.2. on p31 of the proposed study has been changed accordingly. The net result of these changes is that the sample size is now 787 for a longitudinal survey of 6 months.

6. THE COSTS :

The ***purpose of the proposed study*** in terms of economic evaluation is to conduct a ***description of costs***. This is to be distinguished from other forms of economic evaluation (please, see Annex 2 to this "Reply to Reviewers' comments"). Furthermore, as the proposed study is about users of health care, only the **cost elements about users** (direct and indirect costs) are investigated here. (please, see Annex 3 to this Reply).

The authors do thus not intend to study consequences of disease and disability, which - as the reviewer rightly points out - would require a different framework and study design.

The investigation of user expenditure on health care has been specifically mentioned as a separate specific objective on p3 of the study proposal.

SUMMARY :

One point has particularly been highlighted by the reviewer in his review summary, namely the presence of a health insurance scheme in the GK Health Care System. This point is mentioned explicitly in the section on the significance of the study on p4 of the proposal. Furthermore, subscription to the health insurance scheme is used as one of the variables for stratification which underlines the importance the authors attach to this particular variable as a determinant of health care seeking. Additionally, the same variable is mentioned as one of the explanatory variables to be investigated in health care utilization in specific objective 1 on p3 of

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[2] "Registration of demographic events, 1990" (1994) Demographic Surveillance System-Matlab, Vol 21, Scientific Report No73.

[3] "1994 Statistical Yearbook of Bangladesh" (1994) Bangladesh Bureau of Statistics, 15th edition.

the proposal, and again in Annex 6 where all explanatory variables considered in the study are listed.
It will thus be possible to investigate the 'differences that the insurance scheme makes in health care seeking behaviour', as the reviewer suggests.

Finally, as mentioned above, alongside the present study on health care seeking, specific studies on the functioning of the health insurance scheme will have to be carried, if one intends to illustrate the full impact of the existence of such a scheme in the population, not only on health care seeking in particular, but also (and perhaps in a longer term more importantly) on the potential of self-reliance of this population in general.

II. ON THE COMMENTS OF REVIEWER 2.

The comments of Reviewer 2 are in the same line of some of the comments of Reviewer 1 under the headings Purpose and Summary.

1. ***How the study will complement the existing work on community-based insurance in Africa.***

The authors propose to delete the complete paragraph on p5 of the study proposal where it is mentioned that the study will complement the existing work on community-based insurance in Africa.

The reason is that the present study alone cannot do so. This will only be possible once the complementary studies on the functioning of the GK health insurance scheme, mentioned above under the heading 'Summary', will be completed.

2. ***How the study will explore the practicality of the GK system of health care financing.*** (This is an element of the general aim of the study)

The authors already stated in their reply to the first reviewer on p1 (under the heading 'Purpose') that, in order to fulfil this, other studies will have to be conducted on the organization and functioning of the GK health care system, including its funding base, and its health insurance scheme in particular.
At that time the authors suggested deleting this element from the general aim of the study.

3. ***The kind of contribution the present study may make to local and national policy debates.***

To this comment the authors replied already in the responses given under the heading 'Purpose' on the comments of the first reviewer.

Additionally, the authors agree with the second reviewer that health systems research studies should be adequately tied to important, local and national policy issues.

Therefore, the aim of the study has been rephrased as suggested in the reply to the first reviewer. However, to make this - particularly for the national level - more explicit, the authors propose to add the following to the general aim of the proposed study :

"This may enable them to study to what extent the GK health care system may serve as a model for other rural health care districts in Bangladesh."

Annex 1 - Brief summary of results of the study "Health care use patterns of slum residents in Dhaka-City, Bangladesh.

1. The slum population is not a homogeneous population in socioeconomic and demographic respect. There are substantial variations in indicators such as income and monthly household expenditure, occupation, education, and access to basic amenities. However, typical slum households are poor, non-educated, daily or weekly wagers, with poor housing, some access to clean water, and non-hygienic disposal of excreta.

2. There are important inequalities in illness experience when sub-groups of the slum population are considered. Among the groups with higher illness experience are the poorer sections, children, female adults, and children of parents with a few years of schooling.

3. When considering health care utilization for illness, there are several findings.
Firstly, there is substantial 'health care option shopping' : in about two thirds of the severe illness episodes a second option is used, in one fourth a third one, and in 20% a fourth or subsequent one.
Secondly, 'wait-and-see', home-care (i.e. proper body care and food), and pharmacies make up 80% (for minor ailments) and 56% (in major illness episodes) of all contacts, while modern health care (public, private, and non-government combined) represent 14 and 20% respectively. The most used modern care options are non-government and private care (each one 40%) in minor illnesses, and 60% private care in major illness conditions. Public health care is thus marginally used. Modern care becomes relatively more important as third and further health care option during illness episodes.
Thirdly, there is a positive relationship between illness experience as outlined under 2. and utilization of 'wait-and-see', home-care, and traditional care, and to a lesser extent of non-government care. There is however, a reversed association for modern public and private health care.

4. Main reasons for use of health care options include lack of money to pay for other services and a waiting attitude to see the outcome of the illness for 'wait-and-see'; easy access and low treatment costs for home-care, pharmacies and non-government health care; appropriateness of the option for the illness for home-care, homeopathy and traditional care. Perceived quality of care is a further reason for use of non-government health facilities and homeopaths, and lack of it a reason for non-use of public health care.
However, by far the main reasons for non-use of modern private and public care are economic : or the cost is too high for the former, or the facility is too far away or one has to wait too long resulting in considerable transport costs and time costs for the latter.

5. Health care user direct expenditure patterns (the 'out-of-pocket' expenses) follow similar trends as for health care utilization. These are in line with the average expenditure per health care option : modern private care was by far the most expensive health care option, and 'wait-and-see' and home-care the least expensive ones. Up to 25% of these costs are covered by non-cash sources. Overall, the direct expenditure per inhabitant per year is estimated at US$ 1.50. There is thus a willingness to pay for health care in the slum population, but due attention should be given to ability to pay as the inequalities in utilization and purchasing patterns indicate.
Considering the structure of direct user health care expenditure, the purchase of drugs constitutes 80% and 67% of the total expenditure for minor and severe illness episodes respectively. However, when private clinics or non-government facilities are used for major illness conditions, the proportions fall to 22 and 42% respectively. For public and non-government facilities travel costs compose up to one fourth and one third of total expenditure for minor and severe illness conditions respectively. For the latter conditions, hospitalisation and surgery account for 56% of

total expenditure in private clinics and 12% in government facilities.

6. About one fifth of the households experience loss of income, daily wagers reporting far more income-earning disability than monthly wagers (20% and 2% respectively). About one third of this is due to illness (i.e. indirect user costs, expressed as loss of income due to illness). In the households experiencing illness-related incapacitation, the estimated value of income forgone far exceeds the estimated health care costs. (28% and 4% respectively of all income earned).

Policy implications :

1. A review of the functioning and organization of existing modern health care services is needed, if the health needs of the slum population, particularly specific vulnerable groups, are to be properly met.

2. There is scope for financial contribution to cover health care costs by slum dwellers, but due attention should be given to the ability to pay by subgroup.

3. Health care programmes should be redirected from classical mother and child health programmes to cover all household members, particularly income-earners.

4. Cost-sharing schemes and credit programmes for alternative income generation should be encouraged to decrease the burden of illness on household income, particularly in those households dependant upon the earning of daily wagers.

Annex 2- Forms of Economic Evaluation

		Are both costs and consequences examined?		
		NO		YES
Is there a comparison of 2 or more alternatives?	NO	Examines consequences only	Examines costs only	Cost-outcome description
		Outcome description	Cost description	
	YES	Effectiveness evaluation	Cost analysis	1. Cost Minimization Analysis 2. Cost Effectiveness Analysis 3. Cost Benefit Analysis 4. Cost Utility Analysis

Adapted from: McMaster University Health Sciences Centre (1984) How to read clinical journals: VII. To understand an economic evaluation (part A) Canadian Medical Association Journal Vol. 130 June 1 p.1430

Annex 3- **Types of costs and consequences relevant to the economic evaluation of health care projects/programmes.**

COSTS

1. Organizing & operating costs within the health care sector (eg health care professionals' time, supplies, equipment, capital costs)) DIRECT costs

2. Costs borne by patients & their families :
   - -out-of-pocket expenses) DIRECT costs
   - -patient & family inputs into treatment) DIRECT costs
   - -time lost from work) INDIRECT costs
   - -psychic costs) INDIRECT costs

3. Costs borne externally to the health care sector, patients & their families

CONSEQUENCES

1. Changes in physical, social or emotional functioning : = EFFECTS

2. Changes in resources use : = BENEFITS :
   - -for organizing & operating services within the health care sector :
     - for the original condition) DIRECT benefits
     - for unrelated conditions) DIRECT benefits
   - -relating to activities of patients & their families :
     - savings in expenditure or leisure time (less)) DIRECT benefits
     - savings in lost time) INDIRECT benefits

3. Changes in the quality of life of patients & their families (UTILITY)

Source : Drummond MF and Stoddart GL (1985) Principles of Economic Evaluation of health Programmes, World Health Statistics Quarterly 38(4): p 360