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Attachment 1 D463h
FACE SHEET 1995 ETHICAL REVIEW COMMITTEE, ICDDR,B.

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Date 28 June 1995

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

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

Title of Study HEALTH CARE USE PATTERN IN THE CATCHMENT AREA OF GONOSASTHYA KENDRA

Project status: Gonosasthya Kendra (Partially)

HEALTH CARE SYSTEM IN SAVAR AND GAZIPUR HANAS, BANGLADESH

(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).

Source of Population:

(a) Ill subjects Yes No
(b) Non-ill subjects Yes No
(c) Minors or persons under guardianship Yes No

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

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

Are subjects clearly informed about:

(a) Nature and purposes of study Yes No
(b) Procedures to be followed including alternatives used N/A 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.

I 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

A-031948

1. PRINCIPAL INVESTIGATORS

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2. OTHER INVESTIGATORS

Jalal SHAH
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KMQ AHMED
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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, 1995

5. EXPECTED DATE OF COMPLETION

June, 1997

6. TOTAL BUDGET REQUESTED

US\$ 108,008

7. FUNDING SOURCES

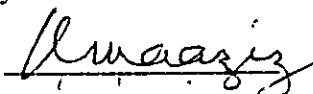
Gonosasthya Kendra Health Services
Belgian Administration for
Development Cooperation
(International Development
Research Centre, Canada)

8. HEAD OF PROGRAMME

Dr KMA AZIZ

This protocol has been approved by the Community Health Division

Signature of the Acting Divisional Director, CHD



Date

22.6.95

Abstract

Health care seeking behaviour is known to be complex and multifactorial. Relatively few studies have addressed this issue for rural settings in Bangladesh. Most findings are based on small-scale surveys involving only some aspects and variables that intervene in health care seeking. The present study is a community-based and longitudinal survey, proposed to be conducted in a rural area near Dhaka, the capital of Bangladesh. In this area, the Gonosasthya Kendra (GK) has developed over the past 20 years a health care system. In the same area, many more health care alternatives, modern and traditional, including self-care practices, are available and used by the population. Since 1972, GK has gradually established a health insurance scheme. In addition, the issue of sharing health care costs has been put high on the health policy agenda. Therefore, this study will pay particular attention to health care user costs.

By some of the authors of this proposal, similar studies on health care seeking have already been initiated in two different sub-populations of Dhaka-City. Consequently, the same methodology used for those studies is suggested in the present study proposal.

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 in the GK health care system's catchment area.

The *specific objectives* are firstly, to investigate health care utilization according to a series of socio-cultural, economic, demographic, and illness and treatment related variables, secondly, to determine how much is being spent on health care according to the same variables as for the first objective, and finally to investigate perceived quality of care and reasons for use and non-use of health care alternatives.

Expected outcomes of the study are a better understanding of the complex nature of health care seeking in a rural setting, and of the factors that play a role in it. Additionally, it is expected that with the findings gained from the study, the GK health team and other health policy-makers will be able to adjust where required their existing health strategies for the GK catchment area, for rural areas in Bangladesh and in other countries with similar socio-economic and cultural patterns.

Research methods The study will consist of three consecutive phases.

The first phase will elicit the components of health care decision making through a limited number of interviews with individuals of the study population.

In the second phase, a 12-months longitudinal survey in 674 households (or about 3,000 individuals) will record data on all new illness episodes through fortnightly visits. Concurrently, socio-economic and demographic variables will be followed up on a monthly basis. The sample for this survey will be selected through a one-stage stratified sampling procedure. Data collection will be done with appropriate questionnaires containing open-ended and self-coding questions. The third phase of the study will comprise a series of about 100 case studies on specific health care seeking and illness experiences reported during the longitudinal survey.

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. GENERAL AIM

to improve health care use and delivery through the assessment of baseline data on health care use patterns in the GK health care system's catchment area in Savar and Gazipur thanas. The purpose is to contribute with the available data to health policy formulation, identification and implementation by the GK health care team as well as by policy-makers and managers at the national level. The study aims at determining from a users' perspective the utility and economic practicality of the GK health care system which is financed by a combination of health insurance and fees-for-service, and subsidies.

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 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).
- 3) To investigate perceived quality of care and reasons for use and non-use of health care alternatives.

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 Bank¹ 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,...'

Beginning in the early 70ies, a health care system has been developed by Gonosasthya Kendra Health Project (GKHP) in parts of the Savar and Gazipur thanas (the administrative unit comprising on average about 250,000 inhabitants). These thanas are a rapidly changing rural area, close to a major city, 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. 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 the Referral Hospital in Savar.

Besides the GKHP, a wide range of other 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.

There are two *systems of payment* for services in the GKHP : a health insurance scheme, introduced since 1972, and a fee-for-services system. About 30% of the population covered by the GK health system have currently subscribed to the health insurance scheme. There is a much higher participation to the scheme by the poorer part of the population. The premium, payable on an annual basis, is based on a sliding scale according to socio-economic status and the status of the subscribing family in the scheme (i.e. old or newly registered subscriber). The fees-for-service are levied on all the elements of the health care system (i.e. consultations, hospitalisations, drugs, diagnostic tests) according to subscription status to the health insurance scheme : subscribers pay fees according to socio-economic status ; non-subscribers pay flat fees which are higher than the ones applied to the highest socio-economic category.

Fees-for-service are levied only for curative services at the Subcentre and the Hospital, and not for preventive services (the latter are also free for the non-insured). On the other hand, curative services as a consequence of preventive check-ups are not free of cost, as for instance Cesarian Sections.

The experience so far has led the leaders of the project to formulate a number of

questions relating to health care seeking, including health care financing by the population :

- what factors operate in health care choice making, and in use and non-use of particular health care resources, and what is their relative importance,
- how much do households spend on health care in the catchment area of the GK health care system,
- for which types of health care resources do they do so,
- knowing that the households are already paying for health care:
 - what are the financing mechanisms that are acceptable to the community
 - how much can be charged to the community and what are the differentials to be taken into account. Are exemption mechanisms required : if yes : for whom, and how would they be implemented.

The present study aims at addressing these research questions through a comprehensive analysis of the health care seeking behaviour of the population living in the catchment area of the GKHP. The proposed study uses methods which have been used in other studies on health care utilization. Particular to this study is that these methods are applied in an area with an ongoing health insurance scheme linked to a project providing what is believed to be effective health care. In this way, it will complement the existing work on community-based health insurance undertaken primarily in Africa. Finally, as mentioned above the setting of the study is quite typical of the situation which will prevail in most of South Asia's peri-urban areas in the foreseeable future.

Along with this study on health care use patterns, it is proposed also to carry out in the same area a series of studies on health care provision patterns, including the GKHP itself.

Findings from both the studies will be relevant to identify new avenues for the organization and functioning of health care in rural areas in Bangladesh, as well as for determining how the local communities can be involved in it and contribute to it.

Furthermore, those findings and their policy implications, together with the specific approach and research strategies used, may be relevant to other developing countries with similar socio-cultural and/or economic background.

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. Conceptual basis of the study.

Understanding the needs of a given community is based on an appropriate insight in people's suffering. It is a dynamic concept in place and time taking a holistic view of human needs in all possible development domains : education, housing, agriculture, health care, sociocultural, economic and political development.

The level of relief of these needs is locally bound and depends on people's preoccupations and the efforts they deploy to solve their problems, on the input of resources, and on the availability and correct functioning of services or facilities in the different development domains. In the field, needs are only partially covered by people's expressed demand for relief. In practice, action for relief, as eg health care, usually covers also only partly the expressed demand as well as only part of the needs. The ultimate goal of action in the health domain is that health care delivery meets the demand of the people and that in turn this demand meets technically defined needs. All demand thus becomes then rational.

The proposed study limits its scope to the interaction between the expressed demand of people for and the availability of health care. It does not intend to assess needs or to investigate the relationship of the latter with people's actual demands or the availability of health care.

2. Research methods for the purpose of the study.

In the literature a variety of strategies are described for exploring the variables influencing health care use and detecting the most important ones. They can grossly be subdivided into two groups, related to their methodological features:

- a *decision making approach* : it 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.³ The degree of validity of these components of decision processes may then subsequently be tested.
- a *correlational or statistical approach* where one investigates how explanatory variables contribute in the choice of health care. These variables can be classified into three groups according to the characteristics (1) of the sick person and of the household to which she/he belongs, (2) of the disorder as perceived by the sick person and her/his environment, and (3) factors referring to the health care system(s).⁴

Both strategies should be utilised together because their findings are complementary and

both have specific methodological limitations.¹ Furthermore, no single approach can illuminate the wide range of issues of potential relevance for understanding health seeking behaviour.

3. Background information on the subject for Bangladesh.

There are relatively few community-based studies on the demand for health care in rural Bangladesh.

Overall 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.^{5,6} Amongst others, the latter may contribute to the influence of gender on mortality in children's age groups.⁷ 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. A recent community-based study by Md Ali⁸ carried out in a rural area on 179 cases of diarrhoea in under fives 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 almost similar for all types of practitioners.

Rahman et al considered health care resource specific use rates for the urban population broken down by some indicators of the users and by type of illness. They pointed that about one fifth of the sick people did not have any treatment.⁹ The literature further reveals the importance of the private modern health care sector and of traditional healers, and the extensive use of large hospitals.^{10,11}

A community-based study¹² 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 on long distances, mismanagement, and provider's poor attitude. 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 the study. For instance, Salauddin et al.¹³ 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.

In an interesting paper by F Nessa, S Rahman, and S Bann,¹⁴ 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 over self-care 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.

An important 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 Study¹⁵ 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 were 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.

B. RESEARCH PLAN

1. Choice of 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. Choice of research strategy

As mentioned before, there are many research methods to explore the complexity of health seeking in a community, no one of which is clearly superior.

Therefore the study strategy will comprise the following three elements which are proposed to be the three phases of the study :

1) **Focus group discussions and in-depth interviews** of a limited number of respondents will be conducted in a cognitively-oriented study. Questions will be addressed 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 individuals in the environment of the sick person involved in health care decision making.

(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) a list of 'tracer conditions' will be constructed requiring a sound knowledge of the *local disease pattern* and of *perceived illness taxonomy*.

With the findings of the cognitive study, non-exhaustive lists will be constructed on health care alternatives, criteria and constraints and possible decision-makers in health seeking, and on perceived illness. These lists will be used by the interviewers during the longitudinal survey. Additionally, this cognitive study will provide independent reports on several aspects of health care seeking at an early stage of the study.

It is expected that this part of the investigation will take about three months.

2) During a **prospective longitudinal survey**, data will be collected through two concurrent surveillance systems.

The first one will follow up all the *illness episodes* occurring in the households under investigation, and, the other one will record data on *selected demographic and socio-economic*

variables of the same households.

This design has been chosen to test the dynamics of health seeking behaviour (i.e. testing the relative importance of the criteria (including constraints) and of different 'decision makers' in health care decision processes as developed in the first stage of the investigation).

Secondly, this design is appropriate to investigate 'healer shopping', more specifically sequential healer use, and to follow up chronic illnesses and 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. Specific questionnaires will be used in each of the two surveillance systems.

The proposed duration of the longitudinal survey is twelve months, because some household and illness characteristics tend to substantially 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).

Interviews will be conducted on a fortnightly basis for all illness episodes and on a monthly basis for the selected demographic and socio-economic variables.

3) Finally, during the longitudinal survey, a series of **case studies** will be conducted on normal and complicated delivery case and different delivery outcomes, because the longitudinal survey only addresses illness episodes and not delivery cases. Questions about utilisation of services as well as costs involved in delivery cases, will be addressed

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

3. Aspects of sampling

3.1. Cognitively-oriented study

The informants will be selected by the anthropologists of the investigation team on the basis of their communication skills and assumed knowledge relevant to this study. Separate series a key-informant interviews will be organised with males and females. The informants will be selected from one nearby and one far away union, and according to the SE categories that are used by GK for its health insurance scheme (the lowest category is very small and therefore not taken). This will bring the number of focus groups on 6 for males, and a same number for females. It is proposed not to take more than 8 participants in each focus group.

3.2. Longitudinal survey

3.2.1. Sampling methods and procedure

As mentioned above, the study population is the population of the 5 northern unions of the Savar thana, and one union of Gazipur thana which totals 159,752 inhabitants (please see Annex 2 for a map of the catchment area of the GK health system). For this population, the GK health system maintains annually updated data on population and number of households per union, household location and subscription status to the health insurance scheme, and household socio-economic status.

Viewing the complex nature of health care seeking, it is proposed to carry out a stratified one-stage sampling.

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 GK Health is able to produce household lists for each of these 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

Determining the *required sample size* is related to one of the analysis methods that will be used in the study, namely statistical analysis of proportions for the different explanatory variables involved in health care choice. Assuming

- proportions of 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%),

- $P = (p1 + p2) / 2$,

- a power of 90%,

- a confidence level of 95%,

then the sample size is, applying the formula

$$n = 2P(1-P) \times 10.5 / (p1-p2)^2 =$$

$$2 \times 0.5 \times 0.5 \times 10.5 / 0.2^2 = 131.25 \text{ in each group.}$$

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 $[131.25 + (131.25 \times 0.2)] = 117.5$, or in total $117.5 \times 2 = 315$ cases for each health problem under investigation.

In order to determine the number of individuals to be followed up, we have calculated separately for each of the two study populations in Annex 3.2 the estimated illness episode incidences for different numbers of populations for common and less common illnesses within a period of 12 months, the proposed duration of the longitudinal survey.

The figures in Annex 3.2. indicate that the minimum sample for the survey is **3,000 individuals or 674 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 100 case studies. This is because the expected number of deliveries cases in the study sample is expected to be about 100.

4. Methods of data collection

4.1. Cognitively-oriented 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

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 will

address questions on 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 health care resource. It will address the same questions on health care use as those contained in the first questionnaire. A non-exhaustive list of 'tracer conditions' will be used for detecting the complaints of the respondents. Please, see Annex 5.1. for an outline of questionnaire 1, and Annex 5.2. for questionnaire 2.

Interviews on any new occurring illness episode will be taken every two weeks during six months from 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 updated until its resolution (death or recovery) during every subsequent visit to the household and information will be collected on subsequent/synchronic 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 about 30 minutes.

(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 5.3. for an outline of the Baseline Survey form, and Annex 5.4. 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 the areas of interest for the case studies. The interviewers will specifically be trained for the purpose of this phase of the study.

5. Sources of bias.

Considering the illness surveillance during the longitudinal survey, 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 selection of only the more severe episodes and more generally of recall by the interviewee of the illness events about the occurred illness episodes.

Bridges-Webb¹⁷ 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 health²¹, 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 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 using the analytical method suggested by JC Young². (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

Desmet M (1994) Health care costs for slum residents in Dhaka-City Presentation given at the Workshop on "Sharing experiences with policy makers and program managers on Urban Health, Ministry of Health and Family Welfare, Directorate General of Health Services, Dhaka

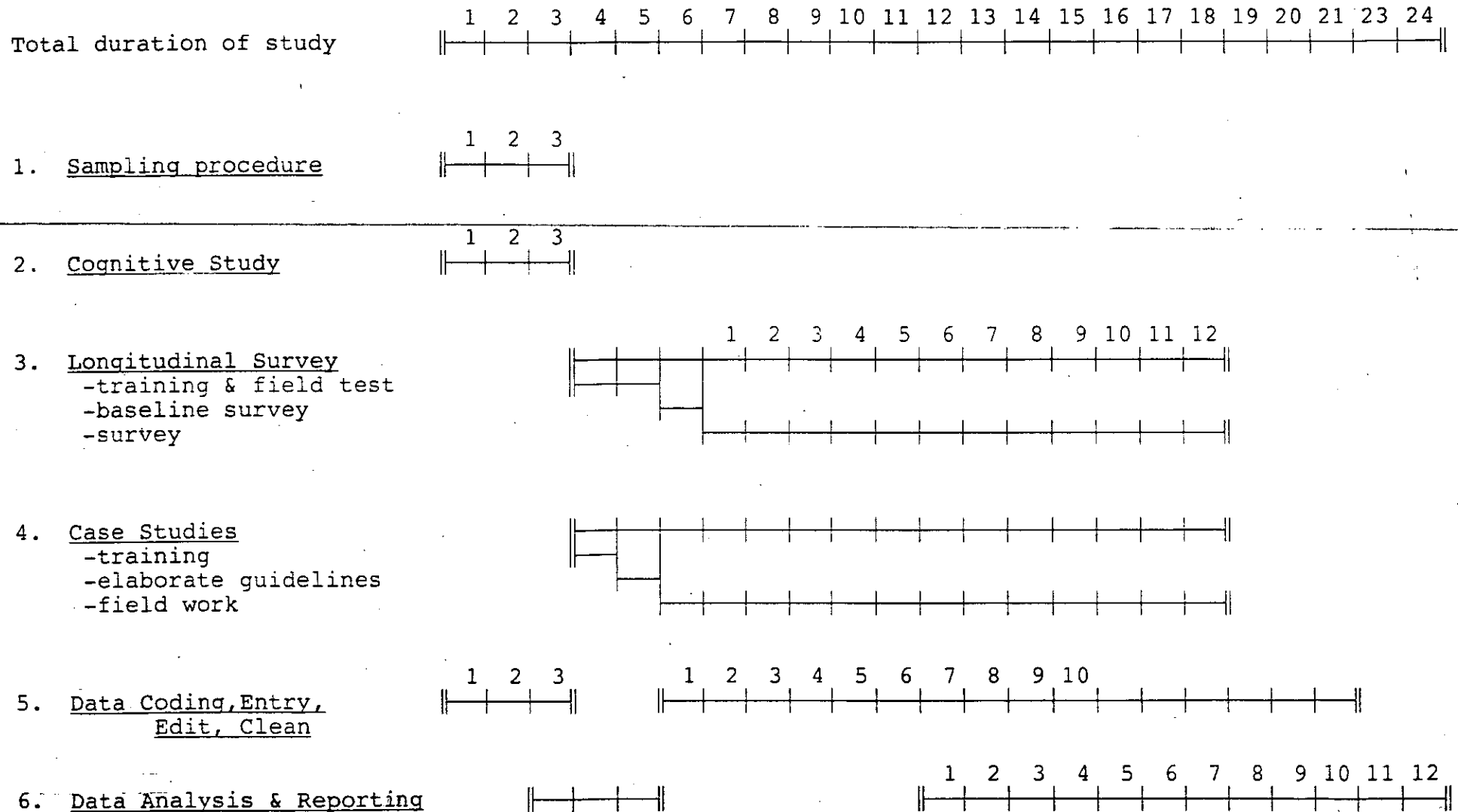
Desmet M (1994) Can all slum people equally afford health care ? Abstract First Canadian Conference on International Health, Ottawa, Canada

Parveen L, Chowdhury AQ, Chowdhury Z (1977) Injectable contraception (Medroxyprogesterone Acetate) in Rural Bangladesh. The Lancet, Nov5;946-947

Chowdhury AQ (1986) Overview of problems and ideal Framework for Medical Education. Paper presented at the seminar on "Health Needs and Student Action in Developing Countries" of the "International Federation of Medical Students Association", Krems, Austria

Chowdhury AQ (1992) Traditional and Indigenous Health Care - A view from Gonosasthya Kendra. Paper presented at a seminar on "Community-based Health Care in especially difficult circumstances : meeting the present challenges", Bangkok, Thailand

13. FLOW CHART



14. ITEMIZED SPECIFIC TASKS FOR EACH LISTED INVESTIGATOR

As mentioned earlier, the research team is composed of anthropologists and public health physicians. The teams include :

Principal investigators : M DESMET, AQ CHOWDHURY

- overall responsibility for the study
- develop and finalize protocol
- finalize outline for key informant interviews
- develop and finalize questionnaires
- select and train interviewers (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

Co-investigator : anthropologist : J SHAH

- finalize and translate outline for key informant interviews
- training of interviewers (mainly communication skills)
- participate in key informant interviews, analyze data and reporting
- participate in in depth interviews
- code questionnaires longitudinal survey
- quality control of in depth interviews, participate in data analysis and reporting

Co-investigators : public health physicians : M CHOWDHURY, KMQ AHMED, S SHAMIANAZ, I BASHIR

- finalize and translate questionnaires
- 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
- 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

Co-investigator : A BHUIYA

- oversee quantitative data collection process :
 - designing of questionnaires
 - coding and computerization
 - data editing and analysis
- oversee socio-demographic and economic survey.

15. BUDGET

Introduction

For this study, it is proposed to create a consortium of three funding agencies, namely the Gonosasthya Kendra itself, and two external donors, the Belgian Administration for Development Cooperation and another third donor to be identified. There is a high probability that the International Development Research Centre of Canada will co-fund the study as this third donor.

Please see in the section 8.3 the details of the budget and the proposed distribution of the budget items over the three agencies.

		Total budget	Proposed to be covered by 3rd party		Proposed to be covered by BADC	Proposed to be covered by GK
			managed by ICDDRDB	managed by GK		
SALARIES						
Pr Investigators						
-M Desmet	*	*				
-Q Chowdhury	*	*				
Co Investigators						
-J Shah	USD 50 x 12	600		600		
-M Chowdhury	USD 250 x 24	6,000				6,000
-S Shamianaz	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	
-A Bhuiya	*	*				
Field Supervisor						
-longitudinal survey	USD 200 x 15	3,000		3,000		
Interviewers						
-longitudinal survey	USD 150 x 15 x 7	15,750		15,750		
Data Entry Techn						
-sampling	USD 200 x 3 x 2	1,200				1,200
-longitudinal survey	USD 200 x 16	3,200		1,600		1,600
Data Mgt Asst (50%)						
-sampling	USD 150 x 3	450			450	
-longitudinal survey	USD 150 x 16	2,400	2,400			
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 200	2,000			2,000	
Accountant (25%)						
-total duration study	USD 100 x 24	2,400	2,400			
TRANSPORT						
Interviewers						
-longitudinal survey	USD 50 x 15 x 7	5,250		5,250		
Field supervisor						
-longitudinal survey	USD 50 x 15	750		750		
Co investigators						
-total duration study	USD 50 x 24 x 6	7,200	2,400	4,800		
Princ investigators						
-total duration study	USD 50 x 24 x 2	2,400	1,200	1,200		

16. JUSTIFICATION OF BUDGET

1. Requirements in personnel

The Principal Investigators will put 20 % of their time-load into the study. The input in time of the other investigators required for the study is estimated at 50%. The requirements of non-scientific personnel is given below for each one of the phases of 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 24 working days a month.

So, the total working days required for entering 36,000 households is :

$$36,000 / 250 = 144 \text{ working days, or } 144 / 24 = 6 \text{ working months.}$$

Therefore, it is suggested to use the services of 2 data entry technicians for 3 months.

This data entry process will be supervised by a data management assistant.

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 3 months of interviews. It will be conducted concomitantly with the sampling procedure.

1.3. Longitudinal survey

As mentioned above, the longitudinal survey will take 12 months excluding one month of baseline survey. Training sessions will be required to make interviewers familiar with the survey questionnaires. The duration of this training may be estimated at 3 weeks. Field testing of the questionnaires, 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 $674 \times 2 = 1,348$ new illnesses to be followed up a month, or, $1,348 / 24 = 56$ a day. In the section on Methods of data collection it is mentioned that one interviewer is able to conduct on average 10 interviews a day. This means that 5.6 interviewers are needed for the longitudinal survey. In the section on 'Case studies' hereunder, it has been calculated that 1.25 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.

Using the same assumptions as above for the longitudinal survey, these 6 interviewers are able

to conduct the baseline survey in 2 to 3 weeks time.

The supervision of these interviewers in the field will be ensured by one Field Supervisor and by the Junior Investigators.

Selection and training of interviewers and field supervisors

As said 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 above, we propose a 3-weeks training course 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 7 case studies interviews a month. This means $100/7 = 14.3$ interviewer-months. As these case studies will be conducted during the 12 months of the longitudinal survey, a supplementary number of $14.3/12 = 1.2$ 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 3 weeks to prepare the guidelines for 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 7.2.1., 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 16 months, starting from the month of the baseline survey. The data management assistant mentioned under 7.1.1. will supervise the data entry process.

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 $200 / 3 = 67$ secretary-days, which makes for 1 secretary about $(67 / 24) 3$ 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.

1.6. Technical personnel requirements

Apart from the recruitment of a full-time secretary, as mentioned under 7.1.2., it is proposed to use the part-time services of an accountant throughout the total duration of the study to manage all supply and financial matters of the study.

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. (please see under section 8.3. on the budget). The number of questionnaire required for the longitudinal survey is :

- for the illness surveillance :

- expected number of illness episodes : $1,348 \times 12 = 16,176$

- 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 $16,176 \times 2 = 32,352$,

- for the socio-economic/demographic surveillance :

- baseline survey questionnaires : 674 .

- update forms : $674 \times 12 = 8,088$.

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 accuracy 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
- Annex 2 Map of the Catchment Area of the GK health system
- Annex 3.1 Details of sampling procedure
- Annex 3.2 Some details on sample size calculation.
- Annex 4 Guidelines for key informant interviews
- Annex 5.1 Illness and first Health Care Resource Questionnaire
- Annex 5.2 Subsequent Health Care Resource Questionnaire
- Annex 5.3 Socio-economic and Demographic Baseline Survey Form
- Annex 5.4 Socio-economic and Demographic Update Form
- Annex 6 Outline for data analysis and expected outcome

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 Dhaka. In the thanas of Savar and Gazipur, 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

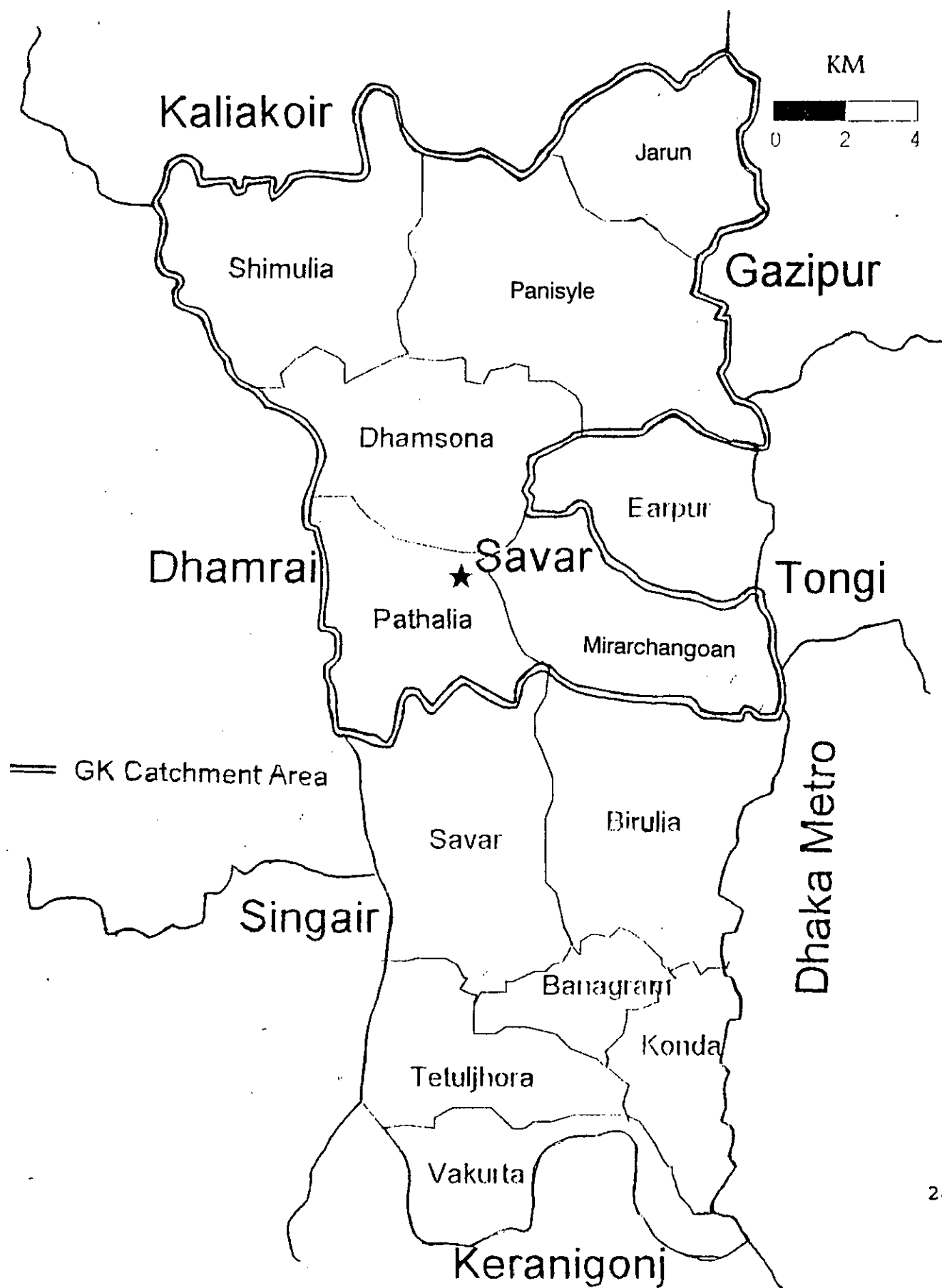
Date

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 husband, beggar, mentally and physically disabled.
 - ‘poor’ : landless farmer (less than 1 acre land), door-to-door vendor, daily wagers, all

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.

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	6 substrata
-health insurance status	2 substrata
-socio-economic status	4 substrata

The total number of substrata becomes then $6 \times 2 \times 4 = 48$.
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 :

UNION : _____

INSURANCE STATUS : _____

SE CATEGORY : _____

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

11.2. Suggested procedure : stratified one-stage sampling

- As mentioned above, the study population will be stratified according to :
 - union 6 substrata
 - health insurance status 2 substrata
 - socio-economic status 4 substrata.

So, we obtain a total number of 48 substrata represented in HH lists sorted by village.

- 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 674 HHs.
- These HHs will be assigned to the 48 substrata with PPS.
- 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 :
 - 13% as the proportion of children under 5
 - 45% as the proportion of children under 12
 - 50% as the proportion of adults (above 15 years old)
 - 1.5% as currently pregnant women
- the number of illness episodes per child under 5 per year :
 - 3 for diarrhoea 3 for fever
 - 3 for ARI 0.3 for ear infection
- the number of illness episodes per child under 12 per year :
 - 1 for dysentery 0.3 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/year		
			/1yr	pop=2,000	pop=3,000	pop=5,000
<5 yrs	13%	Diarrhoea	3	780	1,170	1,950
		ARI	3	780	1,170	1,950
		Fever	3	780	1,170	1,950
		Ear infection	0.3	78	118	196
<12 yrs	45%	Dysentery	1	900	1,350	2,250
		Ear infection	0.3	270	406	676
>15 yrs	50%	Diarrhoea	2	2,000	3,000	5,000
		Fever	2	2,000	3,000	5,000
		ARI	1	1,000	1,500	2,500
All	100%	Skin disease	0.3	600	900	1,500
		Injury	0.2	400	600	1,000

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

Household No.: _____ Date: _____ Interviewer: _____
 Name: _____ 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? Cause	3. Severe/trivial
	Yes/No	Mental/physical
1)	_____ 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...1. _____ (use the list of criteria or write down when not in list ; fill from most to less important) 2. _____ 3. _____ 4. _____ 5. _____	_____
6.	Who did decide to take this Health care resource (encircle) : Codes: 1 Patient 6 Husband 2 Mother 7 Mother-in-law 3 Father 8 Father-in-law 4 Parents 9 Grand parents 5 Wife 10 Other family members 77 Other 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.....	_____

ne: _____ Id #: _____ Respondent Id #: _____

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Annex 5.2. Subsequent Health Care Resource Questionnaire

Household No.: _____ Date: _____ Interviewer: _____
 Name: _____ 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.....	

Household No.: _____ Date: _____ Interviewer: _____

Name: _____ Id #: _____ Respondent Id #: _____

3. (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 1 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 ?.....		_____
9. 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?..		_____

Annex 5.3. Household Baseline Survey Questionnaire

Interviewer: _____ Respondent Id #: _____
 Household No.: _____ Religion: _____ Ethnic Group: _____

Demographic data

#	Name	DOB	Sex	M	REL HH	Mo Id #	Fa Id #	Hu Id #	EDUC	Health Provider's Info			
										Hlth Prov	Kind trt	Trnd by	DUR
1.													
2.													
3.													
4.													
5.													
6.													
7.													
8.													
9.													
10.													

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 _____

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

Household No.: _____

<p><u>3. House Ownership</u></p> <p>Owned..... 1 Rented..... 2 Squatter..... 3 Caretaker..... 4 Other..... 7</p> <p><u>Land Ownership</u>: Y/N Size Unit</p> <p>URBAN: _____</p> <p>RURAL: _____</p>	<p><u>4. House Construction</u></p> <table> <tr> <th></th> <th>Roof</th> <th>Wall</th> <th>Floor</th> </tr> <tr> <td>Jhupri.....</td> <td>1</td> <td>1</td> <td>1</td> </tr> <tr> <td>Bamboo.....</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Wood.....</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Tin.....</td> <td>4</td> <td>4</td> <td>4</td> </tr> <tr> <td>Mud.....</td> <td>5</td> <td>5</td> <td>5</td> </tr> <tr> <td>Pucca.....</td> <td>6</td> <td>6</td> <td>6</td> </tr> <tr> <td>Other.....</td> <td>7</td> <td>7</td> <td>7</td> </tr> </table> <p>#rooms _____</p>		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	<p><u>5. Assets</u> (in no.)</p> <p>Fan.....: _____ TV.....: _____ Radio...: _____ Cycle...: _____ Table...: _____ Bed.....: _____ Watch...: _____ Cookpot -AluCu.: _____ -earth.: _____ Other _____ _____ _____ _____</p>																																						
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Household No.: _____

[illegible]

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	X
Migration-out	2	Migrated out	Destination	Reason	X
Remigration	3	remigrated	Reason	X	X
Change of relation to HH	4	Changed relation	New status	X	X
Change of marital status	5	New marital status	New status	X	X
Change of pregnancy status	6	New pregnancy status	New status	X	X
Pregnancy outcome	7	Delivered/ Miscarriage	Outcome type	Delivery place	Conducted by
Change of feeding status	8	Started new food	New status	X	X
Death	9	Died	Cause of death	Place of death	Attended by

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

[illegible]

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 TO BE INVESTIGATED

Explanatory variables (indicative) :

- of the sick subject and the household to which she/he belongs :
 - age, sex, marital status, household size, status in household, migration (demographic)
 - religion, ethnic group, (cultural)
 - occupation, assets, availability of cash (economic)
 - access to /use of water, sanitary facilities, house structure (proxy-economic)
 - formal education, interaction with family and neighbours (social)
 - subscription to health insurance scheme
- of the disorder (as perceived by subject)
 - acute or chronic
 - severe or trivial
 - cause of illness
 - illness outcome
- 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) :

- likely effectiveness of treatment
- 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 TO BE INVESTIGATED

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

OUTLINES OF DATA ANALYSIS

I. Choice of

(perceived) associated with *variables* related to
HCare resource
(OUTCOME)

- subject
- HH
- disorder
- service (perceived)

1) descriptive part : 2xc or rxc tables :

- categories of OUTCOME : see above and details on p.39
- 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 and quantitative analysis

Sample : key informants and 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.

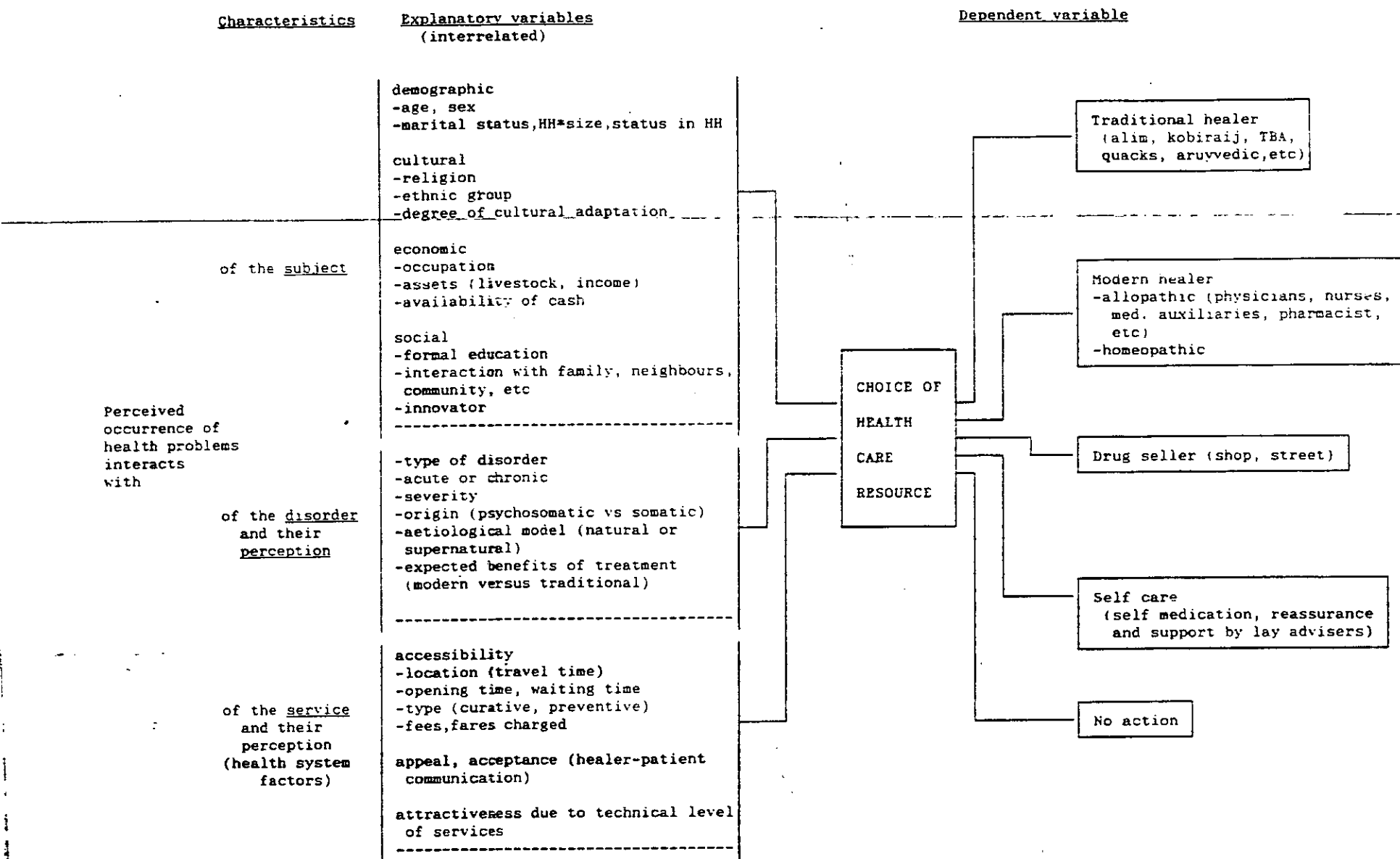


Fig. 1. Possible determinants in the choice of health care resource in Bangladesh.
(adapted from A Kroeger)

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

4.1. 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

4.2. Indirect costs

same analysis plan as for 6.

4.3. Total user costs

same analysis plan as for 6.

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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Dr. M. J. J. J.
External Reviewer 1.

REVIEW OF PROPOSAL:

"Health care use patterns in the catchment area of Gonosasthya Kendra Health Care System in Savar and Gazipur Thanas, Bangladesh"

Although this proposal is well-written and clearly presented, its critical weakness is its lack of focus. As a study seeking to provide support to health system managers and policy-makers it is particularly important that its relevance to them is clear - and demonstrated in objectives, methods and outputs.

Originality and focus

The study is not particularly original. There is already a wealth of knowledge about utilization patterns and the factors influencing them; and there is some knowledge about the factors influencing patient satisfaction with treatment and some knowledge about user costs. Studying health care utilization patterns in the general way proposed is unlikely to provide the sort of information that can be most helpful to policy makers. I suggest that it is important to clearly identify the way in which the information generated will be used, in order to clarify the type and extent of information that is required and appropriate data collection procedures. In other words, the specific objectives should identify the potential policy-relevance of the study rather than the broad topics of investigation¹.

If, for example, the main aim of the study is to support the planning activities of the GK health team then it would be possible to undertake a quicker, less expensive qualitative study to explore satisfaction and dis-satisfaction with available services. To achieve this objective it is probably not necessary to undertake an extensive household survey. Alternatively, the GK health team may already have a clear idea of some critical problems undermining satisfaction and use of the their services: the study could then directly target these problems, rather than seeking only to confirm what managers may already know.

A third alternative would be to focus the study on the differences in utilization of GK health services (as well as patient satisfaction and costs) between populations covered and not covered by insurance (assuming that not all the population in the thanas served by the GK health system is covered by insurance). A study focused in this way would have considerable potential to be of use to policy-makers seeking to address the financial constraints of public health systems. It would also complement the existing work on community-based insurance undertaken primarily in Africa.

Whatever the specific policy focus of the study it would be

¹ For each of the specific objectives listed on p.5 I wondered why they were being addressed; the end to which the data collected would be used.

important to review existing experience in that area to determine key issues that should be explored and relevant methodological approaches.

Methods

Given the focus on utilization decision-making I felt that as much emphasis should be given to qualitative data collection methods, which are more likely to generate information about why people use different health services (as opposed to which services they use), as the household survey. It is important to clarify which groups would be included in focus group discussions and which individuals would be interviewed, how many would be undertaken and whether they would be undertaken before, during or after the household survey(arguments for and against each option).

I was also unclear about the proposed case studies (p.10/12): what data would be collected, from whom and how; and how it would complement other data collection methods.

The household survey design seems very thorough but might collect more information than was necessary or usable. I was also unclear of the basis for the sample size calculations, as 'the explanatory variables involved in health care choice' seen as the basis for these calculations (p.11) were not clearly identified. The focus appears to be on the incidence of different illness episodes (p.12) rather than variables explaining health care utilization, which I understood to be the focus of the study. However, I admit to having no specialist knowledge in this area.

Financial support requested

As it stands the study's budget is well justified. My main concern is whether the expenditure proposed can be justified in terms of the study outputs - and their relevance to policy-makers (see above).

A-03L948

Title : Health Care Use Patterns in the Catchment Area of Gonosasthya Kendra Health Care System in Savar and Gazipur Thanas, Bangladesh

Summary of Referee's Opinions : Please see the following table to evaluate the various aspects of the proposal by checking the appropriate boxes. Your detailed comments are sought on a separate, attached page.

Rank score

	High	Medium	Low
Quality of Project			✓
Adequacy of Project Design			✓
Suitability of Methodology			
Feasibility within time period			
Appropriateness of budget			
Potential value of field of knowledge			✓

?
?
?
?

CONCLUSIONS

I support the application :

a) without qualification

☐

b) with qualification

☐

- on technical grounds

☐

- on level of financial support

☐

I do not support the application

☒

18 February, 1995

Dr. K.M.A. Aziz
Acting Divisional Director
Community Health Division
International Center for Diarrheal Disease Research, Bangladesh
GPO Box 128
Dhaka-1000
Bangladesh

Dear Dr. Aziz,

I have been through the proposal entitled "Health Care Use Patterns in the Catchment Area of the Gonoshasthaya Kendra Health System....." and I find it both interesting and important. I strongly support its approval. In addition to its merit as a well designed study of a very important and timely subject, it will be useful to Gonoshasthaya Kendra, since it provides an independent check of the accuracy of the census and monthly surveys conducted by the GK workers. This will strengthen the value of this data for future research. Furthermore, of course, the study will give GK useful information on the public perception of the program.

My comments follow:

1) It is a very large and ambitious design. Thought should be given to modifications which would simplify data collection and analysis, e.g.:

- it would be much simpler to concentrate the study in, say, two unions. There is variation between unions, but Savar as a whole has characteristics which are different from much of the rest of Bangladesh and any report will have to take into account the differences between the area studied and the rest of Bangladesh.

- tracer conditions might be selected at an early stage, and detailed data collection confined to these cases. (You have already decided to do this in the case of pregnancy care.)

2) The focus group discussions and the in depth interviews will provide very important information, particularly on the perception of the possibilities of cure and effective treatment. They will be the most important basis (together with clinical and epidemiological knowledge) for the selection of tracer conditions. I think you will need more than two focus group sessions to

obtain a representative idea of the situation in the various economic and social strata of this society. I hope you can expand this and make it into a part of the study which could provide independent reports at an early stage.

3) There are two references you should be sure to consult:

Caldwell's study of perceptions about health care in Sri Lanka.

Aldis's survey of health care utilization in Companyganj in 1976-'77.

4) The Specific Objectives need to be tightened and related directly to the information plan to collect and the analysis which will be done. This applies particularly to the 4th objective "to determine ... the explanatory variables which contribute to health care choice making...". Could you explain how you will decide which is more explanatory than another?

5) Some points taken from the discussion:

- the health insurance scheme at GK is not recently introduced; it has been there for 20 years, which adds to the interest in determining why only 30% choose to use it. Clue: the poorer part of the community has a much higher % participation.

- there is more than "some" industrialization in Savar. Industry is pervasive and rapidly increasing, even though agriculture still predominates. This is not a disadvantage, since this is the picture in much of the developing world, but it has to be taken into account.

6) Finally, I am not an expert on questionnaires, but the ones included with the proposal clearly need more work. For example, you could use a better measure of illness severity than "missed work", since many men work intermittently, most women don't work outside the home (but some do) and illness among children is an important problem to be studied.

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

Reply on the External Reviewers' comments

REVIEWER 1.

1. The study is not particularly original. There is already a wealth of knowledge about utilization and the factors influencing it, patient satisfaction and user costs.

Although the authors agree on the fact that there is already quite some literature available on utilisation, they nevertheless point out that the issues at stake in the study proposal are by their very nature locally bound. Health care seeking is indeed, dependent upon the local socio-cultural beliefs and perceptions of ill-health and socio-economic household stratification. Additionally, it is determined by the local health care provision practices and availability, and by accessibility and acceptance of health care alternatives. To the knowledge of the authors this study is also one of the first relatively large-scale ones that will include 'Wait-and-see attitude' as a health care alternative.

Moreover, while the study uses methods that have indeed been used in other studies, they will be applied in an area with an ongoing health insurance scheme linked to a project which provide what is thought to be effective service. It will indeed, as the reviewer notes at the bottom of p1 of his/her comments, 'complement the existing work on community-based insurance undertaken primarily in Africa', where modern services are likely to be more functional and culturally accepted than in Bangladesh.

Finally, the region of Savar is a rapidly changing rural area, close to a major city, with an influx of small industry and other job opportunities. In all these respects it is quite typical of the situation which will prevail in most of South Asia ten years from now. In this context this study focuses on the potential for change.

The authors recognize that these specifications have not enough been outlined in the section on "Justification". Therefore, they suggest

(1) to add after the first sentence in the paragraph on p3 starting with 'Beginning in the early 70-ies,..', the following :

"These thanas are a rapidly changing rural area, close to a major city, 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."

(2) and on p.4 in the paragraph starting with the sentence "The present study aims at addressing these...of the GKHP" :

"The proposed study uses methods which have been used in other studies on health care utilization. Particular to this study is that these methods are applied in an area with an ongoing health insurance scheme linked to a project providing what is believed to be effective health care. In this way, it will complement the existing work on community-based health insurance undertaken primarily in

Africa. Finally, as mentioned above the setting of the study is quite typical of the situation which will prevail in most of South Asia's peri-urban areas in the foreseeable future."

2. The study seeks to provide support to health system managers and policy-makers. Therefore, the study's specific objectives should identify the potential policy-relevance of the study rather than the broad topics of investigation. Additionally, the relevance should be demonstrated in methods and outputs.

2.1. About the objectives :

-the general aim of the study, p.5 :

it is suggested to modify the general aim into the following (additions in italic) :

"to improve health care use and delivery through the assessment of baseline data on health care use patterns in the GK health care system's catchment area in Savar and Gazipur thanas. The purpose is to contribute with the available data to health policy formulation, identification and implementation by the GK health care team as well as by policy-makers and managers at the national level. The study aims at determining from a users' perspective the utility and economic practicality of the GK health care system which is financed by a combination of health insurance and fees-for-service, and subsidies."

-the specific objectives of the study :

the specific objectives will be modified as follows :

- "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 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).
- 3) To investigate perceived quality of care and reasons for use and non-use of health care alternatives."

The list of explanatory variables is in Annex 6 of the proposal (Outlines of data analysis and expected outcome).

2.2. The recommendations listed by the reviewer as alternative research questions and methods would not respond to the research questions listed in the section on the significance of the study

proposal :

- 1) The research questions do not only relate to satisfaction or dissatisfaction with GK services, but to all possible health care alternatives available to the study population, including the 'wait-and-see' attitude and home-remedies.
- 2) The proposed study aims at investigating health care utilization in a manner independent from what the GK health care team may identify as 'critical problems undermining satisfaction and use of their services'. The study wants to identify and investigate those critical problems from a representative sample of the population in the GK catchment area, and not only for the GK health service, but for all available health care alternatives.
- 3) The study does focus on differences in utilization of health care alternatives, patient satisfaction and costs, as between the insured and uninsured, but it does so in the context of the research questions outlined on p.3, and the specific objectives on p.4.

Consequently, both the cognitive study and the longitudinal survey are necessary for addressing the research questions mentioned above and the study's specific objectives.

3. Cognitive study (phase I of the study : Clarification on (1) which groups would be included in focus group discussions and which individuals would be interviewed, (2) how many would be undertaken and (3) whether they would be undertaken before, during or after the household survey

For the elements (1) and (2), the authors refer to the reply given to the comments of Reviewer 2, under section 2.

About element (3), the focus group discussions will give an insight in the components of health care choice listed on p9 of the study proposal under section 2.1. The last but one sentence of this section outlines one of the purposes of collecting this information, i.e. the findings will be used to construct non-exhaustive lists of health care alternatives, criteria and constraints that operate in health care choice and perceived illness. These lists will be used as guidelines during the longitudinal survey. In order to comply with this objective, this qualitative research has necessarily to be carried out before the longitudinal survey.

4. Case studies : what data collected, from whom and how ; how it would complement other data collection methods

The authors have decided to confine the case studies to normal and complicated delivery cases and different delivery outcomes, because the longitudinal survey only addresses illness episodes and not delivery cases. Questions about utilisation of services as well as costs involved in delivery cases, will be addressed. According to the expected number of deliveries in the study sample, the total number of case studies will be limited to 100.

Therefore, the authors suggest to change the following sections in the text :

(1) the section on case studies under the chapter on 'Choice of research strategy' into the following (changes in italic) :

"Finally, during the longitudinal survey, a series a case studies will be conducted on normal and complicated delivery case and different delivery outcomes, because the longitudinal survey only addresses illness episodes and not delivery cases.

Questions about utilisation of services as well as costs involved in delivery cases, will be addressed."

- (2) and the section on case studies under the chapter 'Aspects of sampling' :
"It is suggested to conduct 100 case studies. This is because the expected number of deliveries cases in the study sample is expected to be about 100."

5. The amount of information gathered through the household survey

It is the authors' opinion that the amount of information gathered through the household survey is appropriate (both the illness and socio-economic and demographic update surveys). Data are collected on variables that are found in the literature to be relevant for studies on health care seeking : a figure with relevant variables, adapted from A Kroegeer has been added to Annex 6 (Outline of data analysis).

6. About the basis for sample size calculation

In view of the complex nature of the study, it is impossible to choose one formula to calculate the study's sample size. The formula that has been selected is based on one of the analyses that will be conducted, namely analysis of proportions for the different explanatory variables involved in health care choice. This is mentioned on p.11 of the study proposal. The explanatory and outcome variables proposed to be used in the study are listed in Annex 6 of the study proposal. The ones that are used to illustrate the sample size calculation are in that list (i.e. gender and health care provider). Finally, the sample size is based on the incidence of illnesses. This is because attempts will be made to investigate explanatory variables for different (groups of) illnesses. (see Annex 6 under 'Outline of analysis' and 'Expected outcome').

REVIEWER 2.

1. The possibility of simplifying data collection and analysis

1.1. concentrating the longitudinal survey in for instance two unions :

The implications of such an approach are twofold : scientific and logistical.

- From a scientific point of view, this approach represents a loss in representativeness of the findings of the study, thus in quality of the data. Furthermore, if this approach is to be adopted, there are -considering the complex nature of this study - no clearcut criteria on which to base the selection of these two unions out of the existing six.

- About the budget/resources use and logistical implications :

the sample size of the survey would not be affected by this effort to concentrate the sample in two unions. The decrease would only be produced through a concentration of field staff and investigators, and thus reduction in transport costs, which represent only about 10% of the total budget. As a result, the implications of such a measure on the study budget may be expected to be minimal.

Consequently, it is the authors' opinion that the gains in terms of resource use/logistics do not

outweigh the loss in representativeness of the data.

1.2. selection of tracer conditions at an early stage and detailed data collection confined to these cases.

If the longitudinal survey would be confined to a selection of illness cases, some of the study's objectives could not be met on important issues for which the total number of illness episodes is required, such as average number of illness episodes per inhabitant or groups of inhabitants, average number of contacts with health care providers, and average user expenditure per illness episode.

On the other hand, conducting the survey only on a selection of cases of important illnesses, thus with the highest incidence would reduce by half the expenses related to interviewers required for longitudinal survey and sample selection, because the sample size (and thus the number of interviewers required) would be brought down to half the size in the proposal. This would result in an overall decrease of the budget of about 15-20%.

The authors estimate that the savings in costs do not outweigh the loss in the issues that can be investigated through this study.

2. Focus group discussions and in-depth interviews

The authors agree with the reviewer that more than two sessions will be needed. Additionally, in the study proposal it is stated only that two groups of individuals (males and females) will be selected. Selection criteria may be expanded to include 'geographic location' (eg one nearby and one far away union) and the SE categories as they are used by GK for its health insurance scheme (the lowest category is very small and therefore not taken)(see pp.26-27). This will bring the total number of focus groups to $2 \times 3 = 6$ for males, and another 6 for females.

Furthermore, the authors suggest to retain only the technique of in-depth interviews for economic as well as scientific reasons.

Therefore, the authors suggest to delete the text in the proposal in the Chapter on 'Aspects of sampling', section 3.1. 'Cognitively-oriented study', and to replace it with the following text (p.11)

"The informants will be selected by the anthropologists of the investigation team on the basis of their communication skills and assumed knowledge relevant to this study. Separate series of key-informant interviews will be organised with males and females. The informants will be selected from one nearby and one far away union, and according to the SE categories that are used by GK for its health insurance scheme (the lowest category is very small and therefore not taken)(see pp.26-27). This will bring the number of focus groups on 6 for males, and a same number for females. It is proposed not to take more than 8 participants in each focus group."

With this expansion of the key-informant interviews, the authors consider that this part of the study will provide independent reports at an early stage of the study, as is mentioned by the reviewer. The authors therefore suggest to add the following sentence in the chapter on 'Choice of research strategy', section 2.1) after the last but one sentence of this section (p9) :

"Additionally, this cognitive study will provide independent reports on several aspects of

health care seeking at an early stage of the study."

4. The specific objectives need to be tightened and related directly to the information that is planned to be collected and to the analysis which will be done.

Please, see for this the comments on Reviewer 1, section 2 for the reformulation of the objectives.

5. Points taken from the discussion :

- it has been noted in the Chapter 'Justification', 5th paragraph that GK has introduced a health insurance scheme since 1972. About the much higher participation of the poor to the scheme, the authors suggest to add the following sentence in the same paragraph after the second sentence of it :

"There is a much higher participation to the scheme by the poorer part of the population."

-there is more than some industrialisation in Savar. It is suggested to delete the last sentence in the first paragraph on p9 under the heading 'Choice of study population', and to replace it with the following sentence :

"As mentioned above, industry is rapidly increasing, although agriculture still predominates."

6. About the questionnaires

There are better measures of illness severity than "missed work", since many men work intermittently and most women don't work outside the home, and illness among children is an important problem to be studied.

-The measure of 'illness severity' used in the study is whether the illness is perceived as being 'severe' by the respondent. This is reflected on p33 in question 2 of the illness and first health care resource questionnaire.

Furthermore, other measures will be used, such as whether the illness has been cured or not, and the illness duration as a combined measure of chronicity and severity.

-It is not the intention of the authors to use "Missed work" as a measure of illness severity. The first purpose of including this variable is to calculate indirect health care user costs in terms of 'working time lost'. From the during the longitudinal survey ongoing data collection on income, the authors will be able to estimate the monetary value of this 'working time lost'.



Dr. M Desmet.