

# **MOBILISING RESOURCES THROUGH HOSPITAL USER FEES IN BANGLADESH: A REPORT ON QUALITY AND ABILITY TO PAY**

**Research Paper No. 4  
Health Economics Project  
Ministry of Health and Family Welfare  
August, 1996**

## **Editors:**

**Nazmul Kawnine  
Project Director**

**Stephen Thomas  
Associate Economist**

**Tahmina Begum  
Research Associate**

**Prof. James Killingsworth  
Team Leader**

**Najmul Hossain  
Data International**

## Table of Contents

<b>Executive Summary</b>	<b>I</b>
<b>A: Introduction</b>	<b>1</b>
<b>B: HEU Resource Mobilisation Pilot Programme Research</b>	<b>2</b>
1. Initial HEU Resource Mobilisation Pilot Programme Aims	2
2. Effect of the Paris Consultative Conference	2
3. Effect of Extraordinary Political Activity in Bangladesh	3
<b>C: Design Modifications for the HEU Pilot Programme</b>	<b>5</b>
1. Implementation of the HEU Resource Mobilisation Pilot Programme	5
<b>D: The User Fee System at Bangladesh Hospitals</b>	<b>8</b>
1. Sources and Uses for Hospital User Fees	8
2. Uses of User Fees	9
<b>E: Current Revenue Collections at Bangladesh Hospitals</b>	<b>11</b>
1. District Hospitals Current User Fee Rates and Collections	11
2. Medical College Hospital Current User Fee Rates and Collections	11
3. DGHS Information for 55 District Hospitals and 8 Medical Colleges	12
4. Per Unit Revenues	13
3. Exemption from User Fee Collections	14
4. Specific “Use-of-fee” Issues Concerning User Fee Revenue	16
5. Collections and Targeted Uses of Funds	16
<b>F: A Sensitivity Analysis of User Fee Collections</b>	<b>18</b>
1. Rationale and Methodology for the Analysis	18
2. Results of the Sensitivity Analysis of User Fees	19
<b>G: Perceived Benefits of Hospital User Fees</b>	<b>21</b>
1. A Rapid Survey of Patient Perceptions	21
2. Descriptive Findings	22
3. Theoretical Issues in the Rapid Survey	29
<b>H: User Fees, Inequality and the Poor</b>	<b>33</b>
1. Inequalities and User Fees	33
2. Consumer Surplus and the Self-Selection Approach to User Fees	34
3. Inequality and the Management of User Fee Funds	37
<b>I: Conclusions and Recommendations</b>	<b>39</b>

## Executive Summary

In Bangladesh district and medical college hospitals have mobilised resources through the mechanism of user fees since 1993. This extensive experience is available for health sector policy-makers to draw upon in deciding how best to improve the financing of health services in the country. Not only does the experience already existing in Bangladesh hospitals suggest that some revenue sources are more efficient than others, it also points to crucial questions about equity and fairness in the collection, administration, and use of hospital user fees.

This paper draws upon the research of the Health Economics Unit [HEU] *Resource Mobilisation Pilot Programme* to summarise the user fee experience of Government of Bangladesh district and medical college hospitals. By relating the main issues arising from that period of experience with broader health economics concepts, the paper sets forth a body of recommendations about the limits and potential of user fees in Bangladesh.

A brief summary of the paper is outlined below.

### *What has been the GOB experience with User Fees?*

The HEU proposal for a *Resource Mobilisation Pilot Programme* was accepted and modified by the *Paris Consultative Conference* in September, 1995. That research effort called for an economic assessment of increased user fee charges at district and medical college hospitals of the GOB. In particular, the concern of the *Consultative Conference* was two-fold:

- On the one hand, a concern for the well being of the very poorest of the poor whose overall access to medical care could be compromised by user fees that increased above tolerable limits;
- On the other hand, a recognition that additional resources must be mobilised to pay for health services in Bangladesh, whether through user charges or other methods of cost-recovery.

Because the *Consultative Conference* chose to focus attention upon Bangladesh hospitals and not upon *all* levels of service, the HEU focused its baseline efforts upon district and medical college hospitals, roughly the second and third-level public hospital services of the country. Given the further constraint of the political activities in late 1995 and early 1996, the HEU decided to begin collecting baseline information in the Dhaka Division but outside of Dhaka City itself.

### *User fees at District and Medical College Hospitals*

The system of user fee collections put into place in 1993 was examined carefully through a field site survey at five Dhaka Division district hospitals:

- Jamalpur District Hospital
- Kishorganj District Hospital
- Netrokona District Hospital
- Sherpur District Hospital
- Tangail District Hospital

In addition, the HEU conducted a detailed baseline costing and revenue analysis of the Mymensingh Medical College Hospital [MMCH]. Since MMCH lies at an average distance of 90 kilometres from the five district hospitals, it is the most likely third-level referral centre for these facilities.

The special interests of the HEU field survey were the following:

- To describe the component-wise fee rates present in the existing GOB system;
- To estimate average annual collections for user fee components at district and medical college hospitals;
- To relate these collections to overall expenditures and to per-unit amounts;
- To indicate the impact of exemptions on overall collections;
- To link revenue amounts to specific operational hospital expenses to identify areas where expenditures could appreciably improve hospital quality;

### *Consumer Surplus*

These estimates allowed the HEU to consider the topic of *consumer surplus*. In simplest terms and for user fees, this concept concerns amounts of revenue that, given the ability and willingness-to-pay of a population, passes uncollected. In this regard, the HEU report examines whether some groups who are willing-to-pay and able-to-pay more for GOB hospital services are *not* being asked to pay more and, as a result, are reaping exceptional benefits.

### *Sensitivity/Scenario Analysis*

Once the experience with user fees is summarised, the paper presents a sensitivity analysis and scenario analysis of what *might* result for revenue collections were user fee rates increased. The analysis proceeded under the assumption that varying numbers of patients would be exempted from payment but focused attention on the revenue available at a 100 percent collection rate in order to capture the limits of collection. The scenario estimate also made use of hypothetical **price elasticities of demand**. These numerical estimates of the sensitivity of demand for services by patients, given changes in price, allowed the simulation to model percentages of decline in quantity demanded for a given percentage increase in price or, in this case, user fees.

Among the results of the scenario analysis are the following:

- Some areas, particularly outpatient services, will yield larger overall revenues for the system than in-patient fees.
- Outpatient services, however, may discourage specific types of patients from attending GOB hospitals--a positive if they decide to stay closer to home at Thana Health Complexes, e.g., but a negative if they simply leave the allopathy system.
- User fees revenues could be appreciably increased by reducing exemptions and by a 10-20 percent increase in selected user fee rates.

### *Perceptions of Quality and User Fees*

The HEU conducted a non-random, non-generalizable "rapid survey" of former patients at the MMCH facility to determine their views of quality and ability/willingness-to-pay issues. The results of the discriminant analysis that accompanied this rapid survey showed that quality and probably price elasticity of demand for services at GOB hospitals may be appreciably affected by "unofficial" charges to patients.

It is suggested that the HEU and other researchers use the hypotheses of the rapid survey to investigate the impact of user fees on quality perceptions, given the additional impact of "unofficial" charges.

### *Inequalities and a "Self-Selection" approach to User Fees*

Since inequalities are imposed by prices and price increases, the HEU has investigated the issue of "inequality" imposed on various income and educational groups in Bangladesh. In particular, the paper looks at the issue of *consumer surplus* to determine whether subsidies might now be passed upward rather than downward.

As a method for limiting the effect of user fees on the poor and ensuring that revenue is raised from those most able to pay, the HEU has studied a "self-selection" method for collecting user fees. This method, described fully in HEU Research Note No. 6 (*User Fees, Self-selection and the Poor in Bangladesh*) is summarised in the context of inequality and fairness issues in the present paper.

### *Conclusions and Recommendations*

This report on user fees at district and medical college hospitals consists of a multi-sided and empirical treatment of user fees in Bangladesh. Major subjects covered in the report include:

1. A discussion of the history and evolution of the HEU's *Resource Mobilization Pilot Programme* research effort after the *Paris Consultative Conference* in 1995.
2. A presentation of the official structure of user fees operated by the Ministry of Health and Family Welfare at its district and medical college hospitals.
3. A summary of current revenue collections for user fees at GOB hospitals accompanied by a description of the exemption system presently in use at these facilities.
4. A sensitivity analysis of various user fee collection scenarios at district and medical college hospitals in Bangladesh, one emphasizing price elasticities of demand estimates for "official" user charges.
5. A report on a non-generalizable, non-randomized *rapid survey* of former inpatients at the Mymensingh Medical College Hospital to determine their perceptions of quality and willingness/ability-to-pay for services at the hospital.
6. A discussion of inequality issues that affect the collection of user fees at Bangladesh hospitals, one which emphasizes the potential of self-selection approaches to equity and access questions.

What is most evident from the report are two main points:

- **Management of User Fees.** The importance of careful management of user fee collection cannot be over-stated. Fund uses *must* be carefully targeted to focus upon operating costs that could yield evident quality improvements for consumers *and* for those attempting to provide professional health care at the hospitals of Bangladesh.
- **User fee levels and Inequalities.** As user fee collections are increased at public hospitals in Bangladesh, care should be given to the reduction of "unofficial" charges and other forms of inequality that may undermine attempts to raise quality while protecting the interests of the very poor.

In view of these main points, the report provides the following recommendations for consideration by policy-makers.

### *Recommendations*

In the development of a full resource mobilization effort, policy-makers in the health sector of Bangladesh must bear in mind the need to examine the financial dynamics of cost-recovery efforts. As this paper shows, specific approaches to resource mobilization may have multiple impacts, many of which interact with other features of health care provision.

If equitable user fee collections are to take place at Bangladesh hospitals, then it is recommended that the following points be taken into account:

1. User fee impact must be studied closely to determine “price elasticity of demand” estimates which take into account “unofficial” charges as well as official ones. These “elasticity” estimates should then be used to reduce system leakage where it exists and can be controlled.
2. User fees implementation schemes should anticipate the fullest absorption of consumer surplus in a manner that clearly benefits the most vulnerable elements of the population.
3. Quality features should be linked with ability-to-pay and willingness-to-pay information so that user fees can be collected in a dynamic manner, i.e., one that anticipates the multiple perceptions of quality possible across income groups and between professionals and the general public.
4. User fee collections should be maximized by application in the outpatient area of hospitals if it is clear that the poor will not be damaged in the process. In short, increased user fee collections should be considered in connection with an improved *referral system*.
5. Where a reasonable split can be attained between hotel or food services at a facility and medical or professional areas of judgment, user fees should be applied through the mechanism of self-selection.

## Section A: Introduction

This report summarises initial Health Economics Unit field research findings about current user fee collections at district hospitals and medical college hospitals in Bangladesh. These *revenue aspects* of resource mobilisation are drawn from the *HEU Pilot Programme for Resource Mobilisation through User Fees in the Ministry of Health and Family Welfare (Research Note No. 3; August, 1995)*.

The report pursues multiple objectives, including:

- An initial discussion of the approach to user fees presently utilised by district hospitals and medical college hospitals of the GOB.
- A body of summary figures reflecting the current levels of user fees collections at these GOB hospitals
- Projections of likely user fee collection amounts at these facilities under various scenarios
- A review of issues concerning increased user fee collections and the poor, including some comments upon the *self-selection approach* to resource mobilisation
- And a statement of modifications required for further HEU research under its *Resource Mobilisation Pilot Programme*.

Because of their close relationship with issues of quality and ability-to-pay/willingness-to-pay, the report provides some insight into the possible effect of price increases for district hospital and medical college hospital services. The issues that emerge from a preliminary review of findings in this area, coupled with priorities of the Government of Bangladesh [GOB] and the *Paris Consultative Conference of 1995*, suggest a set of new and Bangladesh-specific hypotheses concerning resource mobilisation in the country. It is anticipated that the HEU will pursue these issues further through its *Resource Mobilisation Pilot Programme*.

## Section B: HEU Resource Mobilisation Pilot Programme Research

### *Initial HEU Resource Mobilisation Pilot Programme Aims*

The original *Resource Mobilisation Pilot Programme* of the HEU (*Research Note No. 3*; August, 1995) envisioned a multi-stage research programme designed to assess resource mobilisation at *all* GOB health service levels. At the time, little was known about the variety of approaches being used for resource mobilisation or the absolute amounts of revenue generated by these activities. Anecdotal information existed about NGO programs. Rigorous research was focused upon the work of the Rural and Urban Extension programmes of the International Centre for Diarrhoeal Research, Bangladesh and work concerning sustainability of family planning services<sup>1</sup> conducted among NGO “Cooperating Agencies” in Bangladesh.

The HEU programme was intended to consist of a baseline study of households designed to capture basic information in key sites for use in a *social experiment* concerning user fees. Once baseline estimates were derived, additional user fees were to be implemented according to significantly different timetables so that prices could change in one area prior to their being changed in others. The areas would be geographically disparate so that migration between districts would be unlikely.

As additional user fees were phased-in, willingness-to-pay estimates would be derived for a range of health and population services or *service baskets*. Ultimately, this work would aim at developing price *elasticities* for the services so that the household effect of price increases at specific facility types could be estimated. The value of having such estimates would lie in the ability to use utility functions to predict the effect of increased user fees upon various income groups in Bangladesh, especially the poorest of the poor.

### *Effect of the Paris Consultative Conference*

The *Paris Consultative Conference*, in addition to approving the HEU *Resource Mobilisation Pilot Programme*, brought about a significant narrowing of the scope of the HEU research concerning user fees. Although the HEU proposal called for a study of *all* levels of health service provision, the *Paris Consultative Conference* aide-memoire called for an emphasis upon *cost-recovery through user fees at district hospitals and medical college hospitals, not all service levels*. The HEU approach accepted by the *Conference* was to retain its concern for the impact of user fees through the study of price elasticities of demand, but the restriction in scope meant that conceptualisation for the *Resource Mobilisation Pilot Programme* needed to be reviewed carefully.

In particular, the HEU research had to deal with the fact that patients at district hospitals and medical college hospitals frequently come for services hoping never to return. Unlike questions of willingness-to-pay focused on routine or self-correcting health conditions for which primary care services might be sought, district hospital and especially medical college hospital services presented immediate challenges to the assumptions of standard willingness-to-pay surveys. How, for example, might a patient meaningfully be asked to imagine their willingness to pay for a gall bladder surgery or a C-section or a hernia repair if they have had not experience with such hospital-based procedures. Even the hospital treatment of tuberculosis or hepatitis might pose questions to which a patient would have no experience-base upon which to draw.

Further complexities arise from the considerable difference between *pre-hospitalisation* and *post-hospitalisation* views of the relationship between hospital expenses and hospital service quality.

<sup>1</sup> Janowitz, 1996



What might seem like a reasonable trade-off between quality and hospitalisation costs may look different once the hospitalisation is completed. Finally, case severity may have a great impact upon willingness-to-pay estimates: even after hospitalisation experience is statistically controlled, moderate cases of acute respiratory infection may lead to quite different cost outlooks from those who undergo emergency C-sections after protracted labour.

Since the *Resource Mobilisation Pilot Programme* planned to develop household survey price elasticity estimates for its study population, the effect of changes in scope mandated at the *Paris Conference* led to a reassessment of study priorities. Supported by arguments developed among international research institutes<sup>2</sup>, the HEU decided that ability-to-pay should receive a higher priority in the *Pilot Programme*. In effect, the decision was taken to recognise that ability-to-pay, especially for catastrophic illnesses<sup>3</sup>, must be treated very seriously when user fees at district and medical hospital services were at issue.

### *Effect of Extraordinary Political Activity in Bangladesh*

Prior to political developments taking place in Bangladesh from December, 1995 to April, 1996, it was assumed that a country-wide collection of data, involving multiple districts of the country, could be carried out to estimate the effect of price increases [user fees] on target population of the HEU *Pilot Programme*. By early January, 1996 it became evident that access to data would be impaired by political developments in Bangladesh and that a focused, efficient approach would be required to studying user fee collection.

Such a strategy would emphasise user fee revenues collected in a single, accessible division--the Dhaka Division. The design took political activity into account by focusing on a geographical area that could be reached on "clear" days in the course of a single day while allowing for return in the evening. The further decision was taken to exclude Dhaka City and its hospitals from the study. Not only was travel within Dhaka City frequently more hazardous than to other area in the Dhaka Division, it was also the case that Dhaka Medical College Hospital was thought to be a likely target for interruptions of service and inaccessibility in the early months of 1996--a fact later borne out. Further, service areas in some parts of the Dhaka Division--especially the geographical vicinity of the Mymensingh Medical College Hospital and the district hospitals that surround it--lay at a sufficient distance from Dhaka City to lend integrity to travel patterns pursued by patients--again, a fact that would be borne out by medical and cashier's office records. Finally, by excluding Dhaka City, the study would provide information of direct relevance to other parts of Bangladesh not significantly influenced by the referral pull of large urban areas and their specific burdens of disease--a circumstance shared by many areas of the country.

Finally and at least in part because of accessibility limitations, it was thought that, where possible, issues relevant to management uses of user fee revenues were to be considered during the assessment of hospital user fee collection and fee utilisation patterns. Not only could a greater understanding of revenue-and-expense relationships at district and medical college hospitals be obtained by intensive, facility-based study during the period of political activity in Bangladesh. It was thought as well that evaluation of hospital unit costs, if they could be developed, would provide an important understanding of user fee collections, since the overall hospital expenditure patterns and their efficiency might have great significance for expected resource mobilisation at district and medical college hospitals. Indeed, management issues and user fee approaches to resource mobilisation have been shown consistently to be linked in the international literature on the subject<sup>4</sup>.

<sup>2</sup> Janowitz, 1994

<sup>3</sup> McGreevey, et al, 1996

<sup>4</sup> Creese, 1991

college hospitals. Indeed, management issues and user fee approaches to resource mobilisation have been shown consistently to be linked in the international literature on the subject<sup>4</sup>.

---

<sup>4</sup> Creese, 1991

## Section C: Design Modifications for the HEU *Pilot Programme*

### *Implementation of the HEU Resource Mobilisation Pilot Programme*

Baseline data collection began in early December, 1995 with a field survey of one medical college hospital, Mymensingh Medical College Hospital, and selected district hospitals within Dhaka Division. The district hospitals chosen included the following:

- Jamalpur District Hospital
- Kishoreganj District Hospital
- Netrokona District Hospital
- Sherpur District Hospital
- Tangail District Hospital

These district hospitals lie roughly within an 90 km. average radius of Mymensingh town, the site of Mymensingh Medical College Hospital. The district hospitals varied in their distance from the medical college hospital, with Tangail District Hospital lying roughly 100 km. away and Netrokona District Hospital at only 32 kms distance. The district hospitals involved varied in bed size, staff composition, and utilisation characteristics. Table 1 presents the staffing pattern and basic statistical information for the district hospitals in the HEU baseline field survey.

**Table 1: Existing Staffing Pattern for 5 District Hospitals, May-June, 1995**

Name of the Post		Tangail	Jamalpur	Kishoreganj	Netrokona	Sherpur
<b>I</b>	<b>Professional Staff</b>					
1.	Senior Consultant	3	2	1		5
2.	Junior Consultant	2	1	2	2	
3.	Resident Medical Officer	1	1	1		1
4.	Medical Officer	4	5	4	4	4
5.	Radiologist	1	1	1	1	1
6.	Pathologist	1	1	1	1	1
7.	Anaesthetist		1			
8.	Dental Surgeon	1	1	1	1	
9.	Deputy Nursing Superintendent	1	1			
10.	Nursing Supervisor	4	4		2	2
11.	Senior Staff Nurse	28	28	13	15	13
12.	Assistant Nurse Nurse	6	6	5	5	5
<b>II</b>	<b>Administrative/Clerical Staff</b>	7	8	4	3	2
<b>II</b>	<b>Technicians</b>	7	7	5	5	4
<b>I</b>						
<b>IV</b>	<b>Other Hospital Staff</b>	45	42	21	23	19
<b>V</b>	<b>Hospital Statistical Information</b>					
1.	Bed Capacity	100	100	50	50	50
2.	Total Out-Patient Visits	55,441	44,370	38,131	29,315	39,398
3.	Total in patient Admissions	10,523	8,973	7,615	8,549	6,159

The field survey of hospital revenues included interviews with Surgeons General in the hospital district headquarters. These interviews sought to capture varying viewpoints about user fee collection methods, the targeted use of exemptions, and, for some, thoughts about how decentralised user fee collections could be utilised at the facility level.

Along with field survey, an HEU revenue survey collected information from the Finance Section of the Directorate General for Health Services [DGHS]. This information covered fifty-five district hospitals and eight medical college hospitals. The DGHS data also included revenue amounts officially reported as collections from the five district hospitals of the field survey. The value of collecting the DGHS data was twofold:

1. To specify the amount reported for user fee collections during the study period at virtually all secondary and tertiary hospitals in Bangladesh;
2. To provide a source document for spotting variations from reported annual user fee collections amounts found in cashier registers of the five district hospitals.

The initial HEU survey showed that the GOB has for some time had in place an extensive user fee collection system for its district and medical college hospitals. Instituted according to circulars promulgated from the Directorate General of Health Services in 1993, medical college and district hospitals are allowed to levy user fees for selected components of hospital services. Hospital directors are responsible for implementing these regulations at medical college hospitals while Civil Surgeons in each District implement the regulations for district hospitals.

The field survey also showed that, except for the device of *out-door patient tickets* and in-patient *admission fees*, the GOB user fee system relies extensively upon the method of *self-selection* (fn-- *User Fees, Self-Selection and the Poor in Bangladesh*, HEU Research Note No. 5; May, 1996). The self-selection approach adopted by the GOB for collecting user fees meant that major components of the total revenue collected at district and medical college hospitals resulted from the consumers choice to pay for better *hotel services*. Although the GOB self-selection system has some unusual design features and idiosyncrasies, there is some evidence that it was designed at least in part as a *progressive* cross-subsidy for poorer patients. A *self-selection* approach, such as the one already used by the GOB, represents a reasonably *non-punitive* model for collecting additional revenues to operate and improve health sector services.

The GOB self-selection approach also seeks to absorb "available" but uncollected funds. It taps what economists refer to as *consumer surplus*<sup>5</sup>. These "surplus" funds consist of *expenditures that hospital patients (consumers) would be willing to make but are not required to make under existing arrangements*. In effect, the current price per visit at Bangladesh district and medical college hospitals is below what some consumers would be able and willing to pay--given, that is, the existing quantity of their health care visits and the existing supply and demand curves for GOB hospital services. Below this article returns to the GOB's *self-selection approach to user fees* to consider its ability to reduce the ability of various income groups to tap the *consumer surplus* available due to subsidies at Bangladesh hospitals. Successful absorption of consumer surplus is but one of the issues implicated in the use of self-selection approach to collecting user fees at Bangladesh hospitals.

Finally the field survey provided insight into the magnitude of user fee revenues and the variable intensity of their use. Generally speaking, user fee collections generated during the fiscal year 1994-95 suggest that, while absolute revenue amounts appear large, user fee collections still represent only a small proportion of total hospital expenditures. In fact, it is much more important to

---

<sup>5</sup> Griffin, 1992

consider hospital user fee revenues relative to component-wise facility expenditures. There, a quite different story is revealed.

To see how quality enhancement uses of funds might affect the acceptability of higher user fee rates, a series of sensitivity analyses have been performed on the 1994-1995 revenue streams to provide a picture of resource mobilisation under various alternative assumptions. These scenario analyses made use of assumptions about how **perceptions of quality** interact with attempts to absorb available *consumer surplus* through user fees at Bangladesh hospitals. In this regard the report presents information derived from a July, 1996 *rapid survey* of sixty former patients treated at the Mymensing Medical College Hospital during the 1994-1995 fiscal year. The hypotheses developed from this rapid survey contain potentially important policy-relevant information about how price increases may affect the health-seeking behaviour of patients from various income, education, and medical categories.

Not surprisingly, the question of user fee impact upon the poor is of special concern for this initial report. International research provides some areas of consensus regarding the broad outlines of user fee impact in primary health care<sup>6</sup>. The literature, as might be expected of "willingness-to-pay" household surveys, is less clear concerning the impact of user fees upon the poor in the case of hospital-based services. In this regard, four issues are highlighted for consideration in the interim report:

1. Questions about the differential impact of subsidies and the *proper conditions* for the successful operation of self-selection approaches.
2. The impact of exemption patterns for hospital user fees in a "free care" system.
3. The value of user fee collections in expanding service supply and improving quality once additional consumer surplus is absorbed at Bangladesh hospitals--i.e. "rationing" issues.
4. Willingness-to-pay and ability-to-pay issues apparent in the collection of user fees at district and medical college hospitals in the country.

These four issues, taken together with the initial findings of the HEU study have led to modification of the initial pilot programme. While the basic aims of the HEU study remain intact, the study has determined that a longitudinal, social experiment model such as the one<sup>7</sup>, in Indonesia, is questionable for Bangladesh. Instead, the study has shifted ground toward a retrospective analysis of patient records from *actual patients* coupled with a limited prospective cohort study of hospital-based patients in order to assess the price effects of additional user fees upon Bangladesh households.

<sup>6</sup> Indrajaya, 1995 and Kutzin, 1995

<sup>7</sup> Gertler *et al.*, 1990

## Section D: The User Fee System at Bangladesh Hospitals

### *Sources for Hospital User Fees*

*Sources* of user fees collected at district and medical college hospitals in Bangladesh are collected according to a pattern established by the Secretary of the Ministry of Health and Family Welfare [MOHFW] through general circulars issued by the Ministry of Finance [MOF]. The circular issued by the MOF in 1993 fixed the structure for current user fee collections, ensuring that the DGHS would implement these circulars in keeping with the operational requirements of the MOHFW and other related features of Government regulations. User fee rates charged for the services mentioned above are fixed by the MOF. Acting under circulars issued by the MOF through the MOHFW and the DGHS, Civil Surgeons determine the functions for which variable user fees are to be collected.

### *District Hospital User Fees*

At district hospitals, user fees revenues are collected for the following:

#### Fixed User Fee Charges

*Outdoor Tickets*--required for the receipt of outpatient services.

*Indoor Admission Fees*--required for the receipt of inpatient services.

#### Variable User Fee Charges

Surgery Fees

Ambulance Fees

X-ray Fees

ECG Fees

Radiotherapy Fees

Blood Bank Charges

Miscellaneous Collections

In addition to these fee items, *paying beds* and *cabins* are an active source of revenue for district hospitals. It is important to note that there are two categories of district hospitals:

- 1 50 bed hospitals--in which there are no "paying beds" or "cabins"
- 2 100 bed hospitals--where either paying beds or cabins or both were found.

According to the official 1982 MOHFW circular establishing these arrangements, the number of paying beds at the district hospital should represent 20 percent of the total bed capacity at the facility.

Some inconsistencies appear to exist in the implementation of these rules. It was found that one of the 100 bed district hospitals in the initial HEU survey charges one category of patients--the "cabin patients"--for surgery. This fact is important since cabin patients at district hospitals are supposed to pay *all* service charges. Further, among the three 50 bed district hospitals in the initial HEU survey, only one district hospital collects user fees for X-rays.

### *Medical College Hospitals*

At medical college hospitals in Bangladesh, the separate items for which user fee revenues are collected include:

Fixed User Fee Charges*Outdoor Tickets*--required for the receipt of outpatient services.*Indoor Admission Fees*--required for the receipt of indoor services.Variable User Fee Charges

Surgery Fees

Ambulance Fees

X-ray Fees

ECG Fees

Radiotherapy Fees

Fees for Pathological Tests

Miscellaneous Collections

*Paying bed and cabins* are the most active sources of revenue for the medical college hospitals. Cabins amount to semi-private rooms (two-bedded wards). Paying beds are beds that provide the patient with assurance that a bed, not the hospital floor, will be available during the stay. Seat rents are treated here as the sum total of paying bed and cabin charges at a facility. Food charges are included with the "seat rent" charge. In September 1982 the MOHFW issued a circular stating that all medical college hospitals, except Dhaka and Chittagong medical college hospitals must have 30 percent of their total beds as paying beds. For Dhaka and Chittagong the number of paying beds is 40 percent of the total sanctioned beds.

*Exemptions from User fees at District and Medical College Hospitals*

Important exemptions appear to be allowed at both district hospitals and medical college hospitals. *Exemption Procedures* are used for the fixed fees and applied to those deemed unable to pay. This exemption decision is made by the Resident Physician or Resident Surgeon or Emergency Medical Officer. In addition to the clearly unable to pay, i.e., the poor, civil servants, physicians and nursing students, and hospital employees are fully subsidised for the use of cabins and paying beds at medical college hospitals and district hospitals. Nevertheless, these additional groups who qualify for exemptions must pay outdoor tickets, admission fees and food charges. Aside from its impact upon *absolute amounts of revenue collected*, this exemption pattern is important because of its link with the absorption of *consumer surplus* discussed below in Sections G and H.

*Uses of User Fees*

In terms of their application, uses of user fee revenues are quite direct and simple. At present, user fee collections are deposited directly into the general revenue accounts of the GOB treasury. This approach merits further investigation since it effectively removes local control of user fees from the hands of local authorities.

The issue of a decentralised and discretionary use of user fee revenues was raised during discussions with Civil Surgeons and other administrators at hospitals within the Dhaka Division. Some of them contended that if user fee revenues could be retained at the hospital facility, then it would be possible for the hospital authority to use those funds for improving hospital services. For instance, administrators suggested that these funds would enable them to buy furniture, supplies and other items on a priority basis. However, some held the view that retention of user fee revenues might create security problems for the hospital authorities. They feared that 'Mastans' who now make claims against hospitals through false admission certificates and demands for free treatment and free medicine would attempt to collect tolls from hospital administration. Obviously, this would hinder the smooth running of the hospital.

International literature is equivocal on the issue of decentralised and discretionary use of user fee revenues. While in the abstract it seems eminently rational to promote local control of user fee funds<sup>8</sup> urges caution unless accounting and fund management systems are well developed and guidelines are carefully drawn for local community management of funds. As the analysis in Section G will suggest, simplistic expectations about decentralised fund management must also take into account the complex meaning of *quality improvement* at Bangladesh hospitals. The preferences of patients and professional quality requirements are not always in agreement and preferences point to multiple, if not potentially conflicting, views of how best to make use of user fees.

---

<sup>8</sup> Kutzin, 1995



## Section E: Current Revenue Collections at Bangladesh Hospitals

### *District Hospitals Current User Fee Rates and Collections*

Although the MOF circular regarding current user fees was issued in 1993, it became officially effective in July, 1994. Current rates of user fees are 10 percent more than the previous rates. The current official rates for various services are as follows:

#### Fixed User Fee Charges

*Outdoor Tickets*--required for the receipt of outpatient services and amounting to a charge of 2.2 Taka.

*Indoor Admission Fees*--required for the receipt of indoor services and amounting to a charge of 3.3 Taka.

#### Variable User Fee Charges

Surgery Fees -- Taka 550 for Major and Taka 250 for Minor surgeries

Ambulance Fees -- Taka 6 per Kilometre

X-ray Fees -- Taka 44 - Taka 55 according to size of the film

ECG Fees -- Taka 66

Radiotherapy Fees

Blood Bank Charges

Miscellaneous Collections

In addition to these revenue sources, *paying beds* and *cabins* (seat rents) are an important source of revenue for district hospitals.

Paying Bed -- Taka 53.50 (including food charges)

Cabins -- Taka 129 and Taka 140 (including food charges).

### *Medical College Hospital Current User Fee Rates and Collections*

At medical college hospitals, the items for which user fee revenues are collected and their official rates are as follows:

#### Fixed User Fee Charges

*Outdoor Tickets*--required for the receipt of outpatient services and amounting to a charge of Taka 3.3.

*Indoor Admission Fees*--required for the receipt of indoor services and amounting to a charge of Taka 5.5.

#### Variable User Fee Charges

Surgery Fees -- Taka 550 (Major) and Taka 250 (Minor)

Ambulance Fees -- Taka 6 per Kilometre

X-ray Fees -- Taka 44- Taka 55 for different sizes of X-ray films

ECG Fees -- Taka 66

Fees for Pathological Investigations

Radiotherapy Fees

Miscellaneous Collections

*Rent from paying beds and cabins (seat rents)* is an especially important source of revenue for the medical college hospitals.

Paying Bed Rent-- Taka 53.50 (including food charges)

Cabin Rent -- Taka 118, Taka 129, Taka 140 (including food charges)

[Note: cabin rent varies according to room size and number of beds in the room--as well as by specific speciality (obs/gynae) at Dhaka Medical College Hospital]

#### *Field Survey Findings for Five District Hospitals*

No uniform pattern was found in the district hospitals of the survey regarding collection of paying bed and cabin rents (including food charges). One of the five district hospitals surveyed collects these rents without food charges, provided that the patient does not take hospital food. On the other hand, the other four hospitals collect seat rents with food charges, regardless of whether the patient takes hospital food.

At the five district hospitals surveyed, the total revenue generated from user fees (i.e. excluding revenue generated from auction, schedule sale etc.) is Taka 1.76 million (Table 2). Component-wise revenue analysis shows that service charges and rents for paying beds and cabins (Seat Rents) are the two most important sources of revenue. *These sources generate 51 percent and 26 percent of total user fees revenue respectively at the facilities.* Service charges include: charges for surgery, x-ray, ECG, Ultrasonogram, pathological tests, oxygen, etc., and ambulance rent.

#### *Field Survey Findings for Mymensingh Medical College Hospital*

A detailed revenue survey was carried out in Mymensingh Medical College Hospital (MMCH)--one of the government medical college hospitals in Bangladesh--as part of the attempt to determine unit costs at the facility. In the 1994-95 fiscal year, MMCH earned Taka 3 million from user fees. Component wise revenue analysis shows that *seat rents are the greatest source of revenue in MMCH representing 70 percent of total user fee revenue.* About 18 percent of revenue comes from outdoor ticket fees while only 5 percent is collected as admission fees. *Unlike district hospitals, less revenue comes from service charges at MMCH (7 percent) and more of it from hotel services* (Table 2).

**Table 2: Field Survey: Total Revenue by Major Sources in Mymensingh Medical College Hospital (MMCH) and 5 District Hospitals (DHs) Surveyed**

Sources of Revenue	MMCH	5 DHs
a) Outdoor (OPD) Ticket Fees	542,924	272,692
b) Admission Fees	158,426	143,846
c) Seat Rent	2,141,127	451,575
d) Service Charges	205,569	888,653
e) Other Charges	389,345	16,533
TOTAL USER FEE REVENUE (a+b+c+d)	3,048,046	1,756,766
TOTAL REVENUE (a+b+c+d+e)	3,437,391	1,773,299

#### *DGHS Information for 55 District Hospitals and 8 Medical Colleges*

Revenue information for 55 district hospitals furnished by the DGHS shows that Taka 15.43 million accrued as revenue from user fees in district hospitals. This represents about 12 percent of average

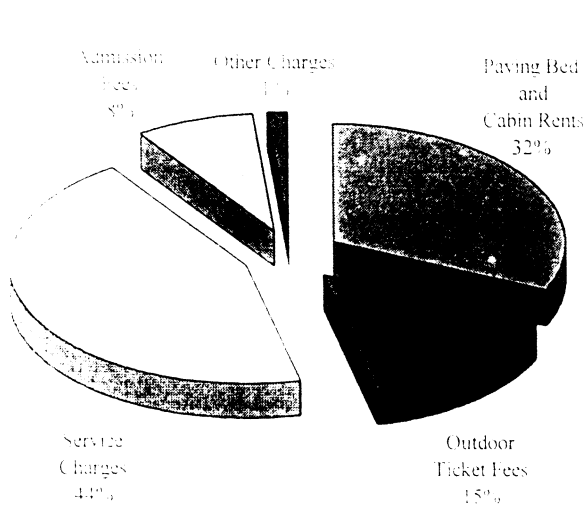
annual total expenditure for these 55 hospitals. Revenue information for the other medical college hospitals was collected from the Finance Section of the DGHS. Total user fee revenue (i.e. excluding revenue generated from auction, schedule sale etc.) collected from the eight medical college hospitals amounts to Taka 20 million. This figure represents roughly 3 percent of the average annual total expenditure (Taka 716.34 million) incurred by them. Seat rents of cabins and paying beds are the leading revenue earner (63 percent) for MCHs. Income from outdoor ticket fees is the second highest source of income for MCHs (19 percent).

Table 3: Total Revenue by Major Sources in 8 Medical College Hospitals and 55 District Hospitals (1994-95)

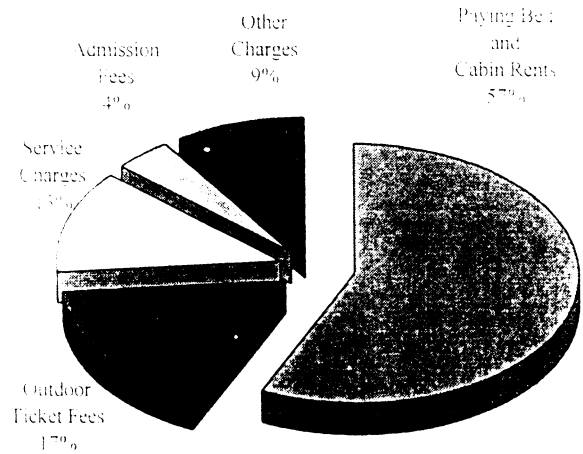
Sources of Revenue	8 MCHs (5150 Beds)	55 DHs (3650 Beds)
a) Outdoor (OPD) Ticket Fees	3,745,691	2,287,043
b) Admission Fees	921,387	1,245,950
c) Seat Rent	12,683,722	4,975,172
d) Service Charges	286,3328	6,919,834
e) Other Charges	210,8456	217,192
TOTAL USER FEE REVENUE (a+b+c+d)	2,021,4128	15,427,998
TOTAL REVENUE (a+b+c+d+e)	22,322,584	15,645,190

Graphs 1 and 2 summarise revenue source components for the district hospitals of the DGHS field survey found in Table 3. Service charges constitute the dominant source of use fee income (44 percent), followed by income from paying beds and cabins (32 percent).

Graph 1: Revenue by Major Sources by 55 District Hospitals



Graph 2: Revenue by Major Sources by 8 Medical College Hospitals



Per Unit Revenues

Table 4 provides a comparison between medical college hospitals and district hospitals on the basis of average revenue estimates per bed. Table 4 and Table 5 also include information on utilisation rate of beds at medical college hospitals and district hospitals.

**Table 4: Per Bed Information about MCHs and DHs (1994-95)**

Items	MMCH	5 DHs Surveyed	MCHs	55 DHs
Admission Fees	244	411	179	341
Paying Bed & Cabin Rents	3,294	1,290	2,463	1,363
Service Charges	316	2,539	556	1,896
TOTAL USER FEE REVENUE	4,689	5,019	3,925	4,227
TOTAL REVENUE	5,288	5,067	4,334	4,286
TOTAL RECURRENT EXPENDITURE			139,096	35,667

Total user fee revenue per bed tends to be higher in district hospitals (Taka 4227) than in medical college hospitals (Taka 3925). When considering only the district hospitals in the HEU field survey, a similar picture emerges.

**Table 5: Fixed User Fees per Patient (1994-95)**

	MMCH	5 DHs Surveyed	8 MCHs	55 DHs	55 DHs
Total Number of Outdoor (OPD) Patients	242,797	206,655	2,946,936	2,716,671	2,716,671
Total Number of Admitted Patients	41,382	41,819	265,860	347,229	347,229
<i>Taka per patient</i>					
Outdoor Ticket Fees per OPD Patient	2.24	1.31	1.27	0.84	0.84
Official Rate for Outdoor Ticket Fees	3.30	2.20	3.30	2.20	2.20
Admission Fees per Admitted Patient	3.83	3.44	3.47	3.59	3.59
Official Rate for Admission Fees	5.50	3.30	5.50	3.30	3.30

### *Exemption from User Fee Collections*

Total amounts collected for both outdoor ticket user fees and admission tickets appear to be “undercollected” [amounts collected fall *below* collection amounts predicted by using a straightforward computational approach to estimating expected revenues]. Table 6 shows that both medical college hospitals and district hospitals collect, on average, only 38 percent of the fees officially allowed under prevailing outdoor ticket rates (Taka 3.3).

**Table 6: Estimated Percentage of Exempted Patients in Medical College Hospitals and District Hospitals (1994-95)**

	MMCH	5 DHs Surveyed	8 MCHs	55 DHs
Outdoor Ticket Fees	32 %	40 %	61 %	62 %
Admission Fees	30 %	44 %	37 %	49 %

In-patient admissions are similarly “undercollected.” Medical college hospitals collected Taka 3.47 in the form of in-patient admission fees per admitted patient. This figure represents about 63 percent of the fees which could be collected given official admission fee rates (Taka 5.5) and the number of admissions at the hospital.

What can explain the collection rates at the facilities? Two explanations seem plausible:

1. Fixed user fees may be collected at lower rates than the officially allowed rates;
2. Some patients do not pay fees because they receive exemptions.

Discussions with hospital staff confirm the second explanation. Administrators in the field site survey indicated that patients are officially required to either pay the full official amount of fixed user fee charges or to pay nothing at all. This would tend to suggest that exemptions account for “undercollections.”

A different picture emerges for district hospital in-patient admission fees. In district hospitals, the admission fee actually collected per admitted patient is Taka 3.59. This amount is **actually higher** than the official “allowable” rate for admission fees (Taka 3.3). An explanation for this peculiarity suggested by the field site surveys is that district hospitals do not follow a uniform pattern for reporting their revenue information to the DGHS. Income from user fees collected from patients who received outdoor treatment in emergency department along with emergency admission fees might have been included in the revenue from admission fees. This reporting pattern, coupled with other reporting problems, could account for the “overcollection.” Another possible explanation was suggested by a recent HEU site visit to the Manikganj District Hospital. There, the District Health Committee decided to charge patients according to “round numbers,” rather than charging partial Taka amounts. As a result, admission tickets or fees rose from 3.325 per patient to 5.0 per patient, effective in late 1995. These changes away from formal procedures, if widespread, could also account for DGHS collection totals exceeding what would be expected by a straightforward utilization-fee rate computation of expected collections.

Table 6 suggests that a large number of patients are exempted from paying fixed user fee charges in both district and medical college hospitals. However, these hospitals do not report the actual number of exempted patients to the DGHS.

In order to provide an estimate of exemptions for this report, the number of exempted patients was computed by applying the following formulae:

$$E = A - (R/O)$$

E= the number of exempted patient

A= the total number of either inpatients admitted or of outdoor patients

R= total revenue collected from either admission fees or outdoor ticket fees

O= official rate for admission fees or outdoor ticket fees

R/O= the number of either admitted or outdoor patients who paid respective fees

Then E is then expressed as a percentage of A

Computations for the five district hospitals in the field site survey show that roughly 40 percent of the outdoor patients may not have paid for outdoor tickets. Generalised to the 55 district hospitals, about 62 percent of the outdoor patients appear to have been exempted from outdoor ticket fees. Given the high proportions involved, the matter of exemptions appears to warrant a more careful investigation.

Using the estimated figure method formulated above predicts that for MMCH about 30 percent of the admitted inpatients and 41 percent of the outdoor patients did not pay their respective fees. The corresponding figures for the eight other medical college hospitals would be 37 percent for inpatient admissions and 61 percent for outdoor patients.

The HEU field site survey showed that civil servants, students, and hospital employees are exempted from payment for the use of cabins and paying beds at MMCH. However, they are required to pay for food, inpatient admission fees, and outdoor ticket fees. Although only impoverished patients are fully exempted from payment of fees, it is normal practice for GOB staff, hospital employees and their relatives not to pay outdoor ticket fees or admission fees.

*Specific “Use-of-fee” Issues Concerning User Fee Revenue*

Retention of revenue at hospitals could be used for the improvement of service quality at the hospital. Three areas may be logical targets for the use of user fee-based financial incentives for making quality-of-service improvements. These are:

- 1. The application of user fees to employee salaries and allowances in order to provide productivity incentives;
- 2. The use of fee collections to improve the quality of food provided for patients;
- 3. The use of fee collections to provide medical and surgical materials and supplies or to maintain existing equipment.

On average, the total user fee revenue generated at medical college hospitals is only 3 percent of the total average annual expenditures, less than US\$.01 *per capita*. For district hospitals the comparable amount represents 12 percent of total average annual hospital expenditures. As Table 7 shows, both district hospitals and medical college hospitals spend the largest amount of their allocated revenues on employee salaries and allowances. In MCHs about one-fourth of the expenditure was spent on patient food.

Table 7: Expenditure Items as Percentage of Total Annual Recurrent (Non-capital) Expenditure

Expenditure Items	Percentage of Total Annual Recurrent Expenditure	
	MCHs	DHs
Salaries & Allowances	54 %	76 %
Diet for Patients	25 %	8 %
Medical & Surgical Requisites and Equipment	8 %	10 %

*Collections and Targeted Uses of Funds*

On the surface, total revenue as a percentage of total non-capital annual recurrent expenditures is not a significant amount--roughly 3 percent. Retention of user fee revenues at Bangladesh hospitals would not appear, on these terms, to bring desired improvements in the quality of services at these facilities. But total annual user fee revenues *are significant* when expressed as a percentage of outlays for individual expenditure items.

Table 8: Total Revenue as Percentage of Expenditure on Expenditure Items

Expenditure Items	Total Revenue as Percentage of Expenditure on Respective Expenditure Item	
	MCH	DH
Salaries & Allowances	6 %	16 %
Diet for Patients	13 %	149 %
Medical & Surgical Requisites and Equipment	41 %	118 %

Table 8 reveals that in district hospitals, total user fee revenues is 149 percent of the annual expenditure for patient food at district hospitals--food being 10 percent of total annual expenditures at the hospitals. If total annual user fee revenues were retained at a hospital and spent to improve patient diet, food quality might be improved significantly.

Discussions with Dhaka Division Civil Surgeons and other hospital administrators during the HEU site survey, revealed that funds allocated to medical and surgical supplies, equipment, and maintenance were routinely viewed as inadequate. In the absence of these “facilities,” the delivery of quality services was seen as practically an impossibility. If additional amounts of money earned from user fees were spent on medical and surgical supplies and equipment, the quality of hospital services could be improved, perhaps substantially. The figures in Table 8 show that district hospitals could especially benefit from expenditure of user fee revenues for “facilities” deemed essential by health professionals.

Finally, it is worth considering whether incentives in the form of “production bonuses” drawn from user fees could have a similar impact upon staff service quality. In this instance the figures of Table 8 are again suggestive since they show that user fee revenues represent even a substantial portion of the largest category of hospital annual expenditures--staff salaries. Whether carefully targeted production incentives would lead to quality improvements deserves study on its own, but it is clear that user fees do provide revenues for such an approach.

## Section F: A Sensitivity Analysis of User Fee Collections

### *Rationale and Methodology for the Analysis*

Doubtless, Bangladesh needs additional resources to improve its health care system. Tapping of additional government funds is not possible for its severe resource constraints. It can seek optimum utilisation of existing facilities and to reducing system leakage. If it seeks to emphasise resource mobilisation and to raise user fees, decisions about *how* to proceed must anticipate equity issues and an analysis of price elasticity of demand. The importance of the latter, of course, is also related to equity, since it provides estimates of how user fees affect the poor. In this report a sensitivity analysis has been developed to arrive at likely projection scenarios related to these issues.

Annual revenues and utilisation data on medical college hospitals and district hospitals for the fiscal year 1994-1995 were collected from the Directorate General of Health Services (DGHS). Eight medical college hospitals and fifty five district hospitals were included in this analysis.

### *Price Elasticity of Demand*

Projections of future revenue generation were derived by changing key variables at different hypothetical level of price elasticity of demand--ranging from zero, 0.1 and 0.2. In general, it was assumed that the demand for services was relatively price "inelastic," such that, to a point, consumers will not be as elastic as, say, primary care services since for C-sections and other similar procedures it is unlikely that substitutes for the service can be found or be perceived as available. Given this assumption, which itself must be tested in Bangladesh, the effect on revenue has shown from two different viewpoints:

1. Percentage increases in total revenue;
2. Absolute increases in total revenue.

Projections were made for 60 district hospitals and 11 medical college hospitals based on the information collected from the DGHS.

### *Revenue Projection Methods*

Annual revenues and utilisation data on Medical College Hospitals and District Hospitals for 1994-95 were collected from the Directorate General of Health Services (DGHS). Eight Medical college hospitals and fifty five district hospitals were included in this analysis.

The impact on revenue generation with the changes of revenue associated key variables are analysed on different level of hypothetical level of elasticity at zero and at 0.1 and 0.2. The effect on revenue has shown from two different viewpoints: (1) percentage increase in total revenue; and (2) absolute increase in total revenue. Projections were made for 60 district hospitals and 11 medical college hospitals based on collected information.

For estimating projected revenue from hospitals a number of assumptions were made. *First*, it was assumed that increased prices for different services will affect only the number of patients who pay fees and charges; the impact on the number of patients who get exemptions are not considered. *Second*, to estimate the number of patients who paid user fees, total revenue was divided by the number of patients attending during the year. The rates are known and therefore the number of people paying user fee could be assessed in a straightforward manner. The differences of actual



number of patients attending during the year and this estimated number of patients who actually paid user fees are considered as number of exempted patients. *Fourth*, information on utilisation of medical services (number of beds, indoor patients and outdoor patients) of MCHs were not available for all the months in 1994-95. Hence, rate of utilisation is considered uniform throughout the year. *Fifth*, although rates between paying bed and cabin rents are different, for simplicity and lack of enough information, they were assumed to be equal. Hospitals reporting on sources of revenue tend to lump cabin and paying bed income.

### *Results of the Sensitivity Analysis of User Fees*

The revenue study reveals that a considerable amount of current user fee revenue remained uncollected due to exemptions. Exemptions are made not only for the impoverished patients but also made for the civil servants, hospital employees, and their relatives--many of whom can afford to pay.

According to Table 9, it is possible to enhance total revenue by 29 percent and 23 percent if exemptions of outdoor and admission fees are totally abolished at medical college hospitals and district hospitals, respectively. However, complete abolition of exemptions is not possible on equity ground and perhaps not feasible on political grounds. Findings from the HEU revenue field survey showed that, in addition to impoverished people, a large number of indoor and outdoor patients get exemptions. Hence, by reducing the number of exempted patients total revenue can be raised significantly.

**Table 9: Increase in Total Revenue Proportions [Amounts are shown in percentage increases at each level of assumed price elasticity]**

ASSUMPTIONS: <i>in %age</i>	MCH E = 0	DH E = 0	MCH E = .10	DH E = .10	MCH E = .20	DH E = .20
10% INCREASE IN OUTDOOR FEES	1.68	1.46	1.49	1.30	1.31	1.14
20% INCREASE IN OUTDOOR FEES	3.36	2.92	2.95	2.57	2.55	2.22
10% INCREASE IN INDOOR FEES	0.41	0.80	0.37	0.71	0.32	0.62
20% INCREASE IN INDOOR FEES	0.83	1.59	0.73	1.40	0.63	1.21
10% INCREASE IN PAYING BED CHARGE	1.97	2.16	1.75	1.87	1.54	1.64
20% INCREASE IN PAYING BED CHARGE	3.94	4.20	3.47	3.70	3.00	3.19
10% INCREASE IN PAYING BED AND CABIN CHARGE	5.68	5.78	5.06	2.83	4.43	2.48
20% INCREASE IN PAYING BED AND CABIN CHARGE	11.36	6.36	10.00	5.60	8.64	4.83
NO EXEMPTION ON ADMINISTRATION & OUTDOOR TICKET	29.21	22.94				

Revenue also will increase considerably if paying bed and cabins fees were increased by 20 percent. At different levels of price elasticity, revenue would increase by around 10 percent in medical college hospitals and by more than 5 percent in district hospitals. It is important to note that as per GOB regulations at district hospitals, 20 percent of authorised beds are to be "paying beds," while at medical college hospitals it is 30 percent. As a result, the total number of paying beds in medical

college hospitals is much higher than that in district hospitals. Then, medical college hospitals can contribute more to the overall revenue stream.

In both medical college hospitals and district hospitals, the effect of admission fees on total revenue is less pronounced than are outdoor fees. Although the official rate of admission fees is higher than that of outdoor ticket fees, the number of outdoor patients is larger than the number of admitted patients in both types of hospitals. Consequently, revenue from outdoor fees exceeds revenue from admission fees. Increasing only admission fees would have a limited impact on total revenue from Medical college hospitals and district hospitals when compared with the effect of raising outdoor ticket fees.

Table 10 shows an absolute increase in total revenue for both medical college hospitals and district hospitals. Revenue from medical college hospitals increases about ten times in absolute amount as compared with district hospitals, if prices of outdoor fees and paying bed charges are raised. Revenue increases about seventeen times more in medical college hospitals than in district hospitals when paying bed rents are increased along with cabin rents.

**Table 10: Increase in total revenues for all hospitals**

ASSUMPTIONS <i>in Taka</i>		MCH E = 0	DH E = 0	MCH E = .10	DH E = .10	MCH E = .20	DH E = .20
10 %	INCREASE IN OUTDOOR FEES	515.033	249.496	458.379	222.051	401.725	1,940.607
20 %	INCREASE IN OUTDOOR FEES	1,030.065	498.991	906.457	439.112	782.849	379.233
10 %	INCREASE IN INDOOR FEES	126.691	1,359.922	112.755	120.970	98.819	106.019
20 %	INCREASE IN INDOOR FEES	253.381	271.844	222.976	239.222	192.570	206.601
10 %	INCREASE IN PAYING BED CHARGE	605.223	358.576	538.649	319.133	472.074	279.689
20 %	INCREASE IN PAYING BED CHARGE	1,210.446	717.152	1,065.193	631.094	919.939	545.935
10 %	INCREASE IN PAYING BED AND CABIN CHARGE	1,744.012	542.746	1,552.170	483.044	1,360.329	423.342
20 %	INCREASE IN PAYING BED AND CABIN CHARGE	3,488.024	1,085.492	3,069.461	955.233	2,650.898	824.974
NO EXEMPTION ON ADMINISTRATION & OUTDOOR TICKET		8,965,587	3,915,280				

"No exemption to the patients" scenario reveals that an additional revenue of Taka 9 million and Taka 4 million is possible to generate for Medical college hospitals and district hospitals respectively. This increase in revenue is much larger than revenue increases that would result from a reasonable increase in user fees.

## Section G: Perceived Benefits of Hospital User Fees

### *A Rapid Survey of Patient Perceptions*

The severe constraints on resources in Bangladesh make the generation of additional user fees attractive to the GOB. But use of existing user fees to improve quality may be essential as well, if the consumer is to pay a larger share of the costs. The *Paris Consultative Conference* documents, for example, expressed the view that patients will pay for *quality*, but may *not* pay more for low quality. If user fees are merely raised, then service utilisation might fall where it is low already and increase where it is already too high. Further, the issue of fairness and equity associated with user fees becomes magnified as prices for hospital care rises.

To address some of these questions, the HEU, through Data International of Dhaka, conducted a *rapid survey* of former patients to determine the following:

1. What may be the effectiveness of prevailing pricing mechanisms [user fees] for district and medical college hospitals if income groups other than the very poor are the actual beneficiaries of user fee collections?
2. What patient perceptions of quality and quality improvements are most likely to affect the demand (revenue) and supply (cost) functions in the case of Bangladesh hospitals?

#### *Survey Results and Survey Method*

The *rapid survey* focused on both the “willingness-to-pay” and “ability-to-pay” concerns of patients admitted to the Mymensingh Medical College Hospital [MMCH] in the past. The study sought to gain impressions from these patients in order to generate hypotheses for detailed analysis, not to provide definitive answers.

The study used a list of 125 former patients of MMCH drawn from the medicine and surgery admission and discharge records of the hospital. The 125 were *not* drawn as a random, representative sample from lists of hospital service wards. The interviews *from* the list were chosen at random. Sixty completed questionnaires were drawn from households visited in the rapid survey. Incomplete and incorrect addresses, patients who had moved, and unwillingness to participate accounted for the missing participants from among the original list of 125.

An interview method, using the questionnaire presented in Appendix A, was conducted in patient homes. Male-female teams went to the homes and conducted the interviews in Bengali. In many cases, patient and spouse or other significant figures in the households collaborated in providing the assessments asked for in the interviews.

Based solely on respondent answers, the personal characteristics of *rapid survey* participants are shown in Table 11. The average reported age is 35 years. The “medical” patients are considerably older on average than the “surgery” patients. Average monthly income reported by respondents is Taka 12,000--a figure skewed by 3 persons reporting monthly incomes of Taka 40,000, 50,000, and 80,000. Even though this distribution refers to family income, the reported incomes separate the survey respondents from *typical* Bangladeshi family incomes. Table 12 shows reported complication rates and Table 13 indicates reported visit patterns for the patients prior to their admission to Mymensingh Medical College Hospital.

**Table 11: Personal characteristics of respondents**

	Reason for admission		
	Medical Treatment (n=32)	Surgical Treatment (n=28)	Overall (N=60)
Age	40.03	29.64	35.18
Years of schooling	10.52	12.71	11.56
No. of family members	6.44	7.68	7.02
No. of earning members in household	1.63	2.43	2.00
TOTAL MONTHLY INCOME OF HOUSEHOLD	8,459.38	15,851.85	11,842.37

Note: The figures reflect mean values

Table 13 shows that a clear majority--70 percent--of the patients were reported being admitted to MMCH after referral and advice by a physician. Some--roughly, 23 percent--sought admission without consulting a doctor. When asked if they had sought health services at any other medical facility or location other than MMCH, 16 percent had visited a Thana Health Complex [THC]. About 11 percent had sought MMCH assistance before seeking any other preliminary assessments of their health conditions.

**Table 12: Complications after surgery/treatment by patient type**

	Complications since the surgery treatment				Overall	
	Yes		No			
Reason admission at MMCH:						
Medical Treatment	11	18.3%	21	35.0%	32	53.3%
Surgical Treatment	5	8.3%	23	38.3%	28	46.7%
OVERALL	16	26.7%	44	73.3%	60	100.0%

Table 14 also shows that 68 percent of those in the rapid survey indicated that they pursued routine admission procedures while 25 percent were accepted because a physician recommended them to do so. Table 16 summarizes reported problems encountered during the admission process.

**Table 13: Visitation at health centres prior to MMCH admission**

	Reasons for admission				Overall	
	Medical Treatment		Surgical Treatment			
Thana health complex	2	4.5%	5	11.4%	7	15.9%
Private clinic	2	6.8%	3	2.3%	1	4.5%
Medical doctor	12	27.3%	17	38.6%	29	65.9%
Other	5	11.4%			5	11.4%
OVERALL	21	47.7%	23	52.3%	44	100.0%

### *Descriptive Findings*

Patients surveyed were asked a series of questions regarding their ability-to-pay, their willingness-to-pay, payments made officially at the hospital, and about "unofficial" payments. Information was also collected about the sources of funds used to pay for hospital costs.

About 20% of the respondents succeeded in making payments from their existing savings, while 23% managed to pay their bills from their current income (Table 15). A number of the patients (18%) relied on current income and savings to meet the expenses; 13% patients combined current income with borrowing. Distress sale, according to this survey, is not very common to meet medical expenses. Though financing the hospital stay was difficult, Table 16 shows that about 96% of the rapid survey participants indicated no difficulties in gaining admission to MMCH.

**Table 14: Alternate admission arrangements at MMCH**

	What were the reasons for your admission				Overall	
	Medical Treatment		Surgical Treatment			
Normal hospital procedure	24	40.0%	17	28.3%	41	68.3%
Employee of the hospital after paying tips			1	1.7%	1	1.7%
Doctors recommendation consultation	6	10.0%	9	15.0%	15	25.0%
Relative/friend working in MMCH	2	3.3%	1	1.7%	3	5.0%
OVERALL	32	53.3%	28	46.7%	60	100.0%

One major reason for this finding is the sampling bias. The respondents are from an urban area, and the poor have very little assets to sacrifice. Of those who borrowed to meet their medical expenses, 69% are confident that they will be able to repay their loans from present and expected future income (Table 18). It appears that the majority of the patients *reportedly* had no **a priori** budget amounts set aside when it came time to seek treatment at MMCH. However, those who pursue surgical treatment tend to have a better estimate of the expected expenditures than do the “medicine” patients.

**Table 15: Sources of payment of expenses for treatment at MMCH**

Who covered expenses of the hospital for your treatment	Reasons for admissions				Overall	
	Medical Treatment		Surgical Treatment			
Current self income	6	10.0%	8	13.3%	14	23.3%
Cash saving	5	8.3%	7	11.7%	12	20.0%
Borrowed from relative & friends	2	3.3%			2	3.3%
Donation from relative & friends	3	5.0%			3	5.0%
Sold assets	1	1.7%			1	1.7%
Current income and savings	7	11.7%	4	6.7%	11	18.3%
Current income and borrowing	5	8.3%	3	5.0%	8	13.3%
Other sources	3	5.0%	6	10.0%	9	15.1%
OVERALL	32	53.3%	28	46.7%	60	100.0%

**Table 16: Problems encountered in getting admission at MMCH**

	Did you face any problems in getting admission				Overall	
	Yes		No			
Normal hospital procedure	1	1.7%	40	66.7%	41	68.3%
Employee of the hospital after paying tips			1	1.7%	1	1.7%
Doctors recommendation / consultation			15	25.0%	15	25.0%
Relative/friend working in MMCH	1	1.7%	2	3.3%	3	5.0%
OVERALL	2	3.3%	58	96.7%	60	100.0%

Patients also were asked to recall the official and unofficial expenses borne by them. Official expenses are those for which receipts were provided by MMCH, and the money went to its revenue account. Unofficial expenses included medicine purchased directly or through a hospital staff, tips, bribes, and other gratuities which may have been made voluntarily or under duress or threat. It is alleged that delays or inability to make the unofficial payments could contribute to delays in surgical or medical treatments, pre or post operative care, and even such privileges as allowing relatives to visit beyond official allowable hours.

According to Table 17, all patients reportedly made significant “unofficial” payments. The average expense a patient incurs for services is Taka 5,000 of which Taka 537 goes for unofficial payment; for medicine they pay Taka 3,735. As such, the share of unofficial payment to total payment is 85%. Table 17 also shows that the poor patient who opts to stay in a non-paying bed or sleeps on the floor may pay a much higher amount as a percentage of his total bill. For instance, the total bill for a person sleeping on the floor is Taka 2,192, with Taka 38 being paid to MMCH.

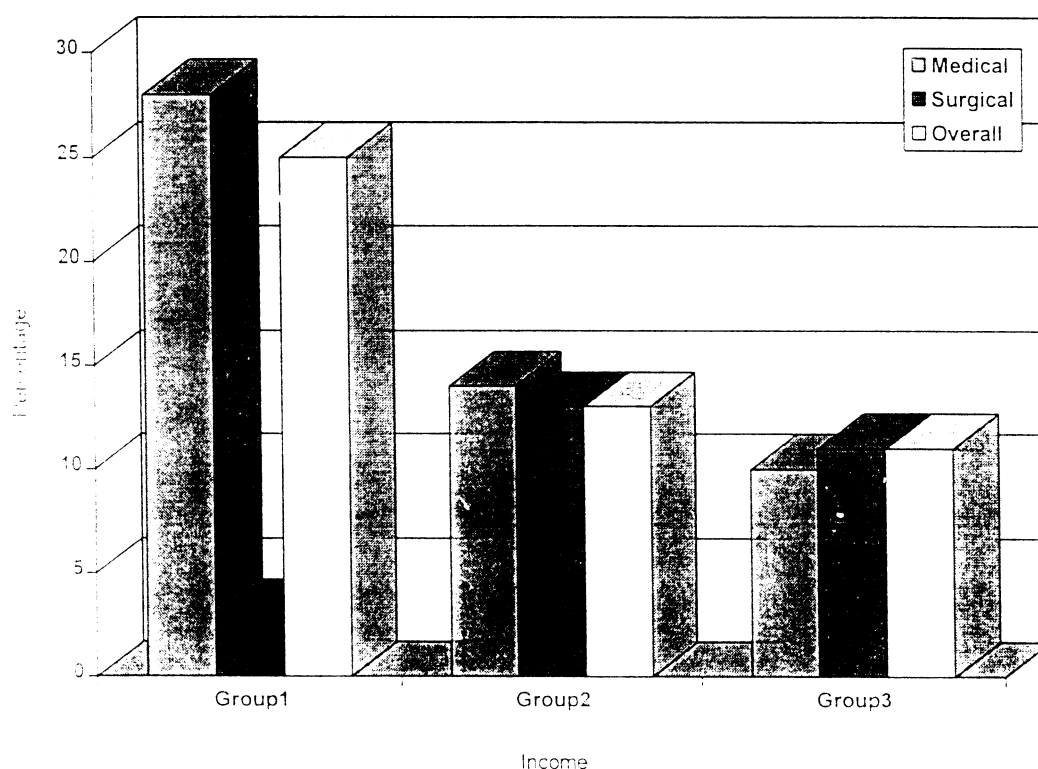
**Table 17: “Unofficial” payments responses**

Medical Treatment	INCOME GROUP			OVERALL
	Tk. 5000 or Less	Tk. 50001-10000	Tk. 10000 or More	
How much money did you officially pay to MMCH	128.36	245.50	707.00	277.34
How much money did you unofficially pay at MMCH	270.00	363.75	240.00	313.55
How much money did you pay for medicine	840.91	2573.33	2150.00	1890.32
Total cost of treatment	1310.70	3221.47	3097.00	2563.80
<b>Surgical Treatment</b>				
How much money did you officially pay to MMCH	106.00	732.18	1362.33	1059.07
How much money did you unofficially pay at MMCH	235.00	643.64	912.67	777.96
How much money did you pay for medicine	6500.00	4613.64	6533.33	5750.00
Total cost of treatment	6841.00	5989.45	8008.33	7587.04

OVERALL				
How much money did you officially pay to MMCH	126.50	443.78	1198.50	641.65
How much money did you unofficially pay at MMCH	266.82	477.78	744.50	536.86
How much money did you pay for medicine	1312.50	3436.54	5437.50	3734.75
Total cost of treatment	1813.45	4392.54	3780.50	5004.19

Graph 3 shows that people belonging to a lower income group, i.e. those earning less than Taka 5,000 per month pays a higher percentage in the form of unofficial payments compared to the rich. This finding suggest that the poor are more vulnerable in protecting their consumer surplus than are the non-poor.

**Graph 3: Ratio of Unofficial Payment to Total Payment Made by Different Income Groups**



Income Group = Monthly Income

Group 1 = Taka 5,000 or Less

Group 2 = Taka 5,001 to Taka 10,000

Group 3 = Taka 10,000 or More

Unofficial payment reports were analysed further by studying socio-economic effects and their impact upon "unofficial payments." In effect the study asked,

*Were the very poor in the study more likely to report high "unofficial payments" than any other socio-economic group?*

Regression Analysis of Unofficial Payments in addition to User Fees

A regression analysis of the data regarding unofficial payments was carried out using the following model:

Y = f(X1, X2, X3, X4, X5)

where:

- Y = Unofficial payment as a percentage of total payment
- X1 = years of schooling
- X2 = total monthly income
- X3 = first time at MMCH (Yes = 1; No = 2)
- X4 = type of patient (Medical = 1; Surgical = 2)
- X5 = electricity used in homestead (Yes = 1; No =2)

The results are summarised as:

Y = .15 + .005X1 + .007X2 - .009X3 - .04X4 - .12 X5  
(1.8) (1.5) (0.7) (0.3) (1.7) (2.3)\*\*

R<sup>2</sup> = .30  
F = 4.2

- \* values in parentheses are the t-values
- \*\* significant at 95% confidence level

Regression estimates suggest that households with no electricity - presumably the poorer households - have a higher propensity to make unofficial payments. Although not highly significant, those with lower education and those who were surgery patients at MMCH are likely to pay a higher amount in terms of unofficial payments.

Table 18 provides a breakdown of expenses reportedly incurred by surgical and medical patients.

Table 18: Sources of repayment of medical treatment loans

Mode of paying back the money	Reasons for admissions				Overall	
	Medical Treatment		Surgical Treatment			
borrowed						
Cash saving	7	43.8%	3	18.8%	10	62.5%
Saving on food			1	6.3%	1	6.3%
Selling assets			2	12.5%	2	12.5%
Other	2	12.6%	1	6.3%	3	18.9%
OVERALL	9	56.3%	7	43.8%	16	100.0%

Discriminant Analysis

Quality of services were also assessed in the *rapid survey*. Each respondent was asked to rank the quality of service provided by various hospital staff, including the doctors. They were also asked to rank the level of cleanliness and on the food served. According to Table 19, ayahs receive the lowest



ranking from the patients, followed by quality of food. The respondents have relatively favourable impressions about the professors and the resident physicians.

**Table 19: Perceived quality of services and providers at MMCH**

Source	Excellent	Good	Average	Poor	Don't know	OVERALL	MEAN
Quality of service provided by professor	6	30	15	5	4	60	2.52
Row %	10.0%	50.0%	25.0%	8.3%	6.7%	100.0%	
Quality of service provided by doctors	2	38	14	6		60	2.40
Row %	3.3%	63.3%	23.3%	10.0%		100.0%	
Quality of service provided by interns	4	35	16	5		60	2.37
Row %	6.7%	58.3%	26.7%	8.3%		100.0%	
Quality of service provided by nurses	1	22	23	14		60	2.83
Row %	1.7%	36.7%	38.3%	23.3%		100.0%	
Quality of service provided by ward boy		6	16	21	17	60	3.82
Row %		10.0%	26.7%	35.0%	28.3%	100.0%	
Quality of service provided by ayahs		3	12	38	7	60	3.82
Row %		5.0%	20.0%	63.3%	11.7%	100.0%	
Quality of service provided by administration		7	34	19		60	3.20
Row %		11.7%	56.7%	31.7%		100.0%	
Cleanliness of the hospital		5	19	36		60	3.52
Row %		8.3%	31.7%	60.0%		100.0%	
Quality of food provided by hospital		4	17	34	5	60	3.67
Row %		6.7%	28.3%	56.7%	8.3%	100.0%	
Quantity of food provided by hospital		6	16	36	2	60	3.57
Row %		10.0%	26.7%	60.0%	3.3%	100.0%	

Note: Mean = Weighted mean; weight: Excellent=1; Good =2; Average=3; Poor=4 and Don't Know=0.

In an attempt to predict characteristics of patient perceptions of MMCH's services, each respondent was categorised into two types through discriminant analysis. Discriminant analysis is a statistical technique used to identify variables that are important for distinguishing among two or more groups or to develop procedures for predicting group membership for new cases where group membership is undetermined. In this type of analysis, linear combinations of the independent or predictor variables are formed and serve as the basis for classifying cases into one of the groups.

Descriptive statistics and univariate tests of significance provide basic information about the information about distribution of the variables within the groups and help to identify some differences among the groups. However, in discriminant analysis and other multivariate statistical procedure emphasis is placed on analysing the variables together, not one at a time. More technically, in discriminant analysis a linear combination of the independent variables is formed and then used as the basis for assigning cases (here, persons) to groups. In discriminant analysis, the weightings also are estimated so that the analysis results in the "best" or "optimum" separation between the groups.

The percentage of cases classified correctly is one good indicator of the effectiveness of the discriminant function. Another indicator of effectiveness of the function is the actual discriminant scores in the groups. A “good” discriminant function is one that has much between-groups variability when compared to within-groups variability.

In the case of the user fee rapid survey, the criteria of a “good” discriminant analysis were met. Since the group mean (centroid) for those who are relatively less satisfied with the quality of treatment (.916) than the more content group (-.399), higher discriminant function values increase the probability that the respondent is a member of the less satisfied group. The model presented correctly classified 80% of the respondents.

Those with a weighted average of less than 2 (excellent = 1; poor = 4) were grouped into the group finding quality to be “acceptable” as against those whose average was 2 or greater and who fell into the group called “unacceptable.” Since a number of patients expressed inability to assess the quality of professors and resident doctors, the composite score was calculated by dropping the rating for these two categories.

Using the two distinct groups as a dichotomous dependent variable, a nonparametric model was fitted to test whether there are discernible differences between the two categories--those viewing quality as “acceptable” and those viewing it as “unacceptable.”

More specifically the following model was tested:

$$SQ2 = f(V007, V011, V070, V063, V060, V077, V068, V041, V041A)$$

where:

<b>SQ2</b>	=	Quality of service. (1=acceptable; 2=unacceptable)
<b>V007</b>	=	Duration of stay in the hospital
<b>V011</b>	=	First time admission at MMCH (Yes=1; No=2)
<b>V070</b>	=	Monthly income of household
<b>V063</b>	=	Years of schooling
<b>V060</b>	=	Age
<b>V077</b>	=	House with electricity (Yes=1; No=2)
<b>V068</b>	=	Number of earning member
<b>V040</b>	=	Total amount paid officially to MMCH
<b>V041</b>	=	Total amount paid unofficially for services at MMCH
<b>V041A</b>	=	Total amount paid unofficially for medicine at MMCH

The testing of this general model through a Discriminant Analysis. The main features of this analysis indicated that those who have favourable quality impressions about MMCH made lower official payments (Taka 547 as compared to Taka 903) and had lower length of stay in the hospital. An examination of the statistical tests known as “Wilk's Lambda (U-Statistic)” and “Univariate F-ratio” suggest that *duration of stay* is the strongest discriminating factor between the group viewing quality as “acceptable” and the group viewing it as “unacceptable.” After duration of stay came whether *this was the patient's first visit to MMCH*.

A number of other sub-models were tested by varying the number of independent variables. One sub-model used cleanliness as the only dependent variable. The findings suggest that the model presented above is quite robust, as the discriminating power of each of variables remained stable.

The findings from the discriminant analysis suggest that factors affecting perceptions on quality are complex, and cannot be standardised. A series of hypotheses for future research emerge from the study:

1. **Rent Seeking.** It is important to know whether low official prices at public hospitals contribute to rent seeking activities and whether new revenues from user fees can be used to curb rent seeking if it exists on a widespread basis among hospital employees.
2. **Unofficial Payments.** The rapid survey encourages investigation of whether “unofficial” payments may cancel or override the benefits from well-spent user fees. If the poor are to benefit from service quality improvements or other uses of “new” revenues, then the proportions they may pay in “unofficial” payments must not eclipse the gains from user fees.
3. **Perceptions of Quality.** Perceptions of quality are complex, according to the rapid survey. To promote the hope that user fees can be used to improve quality at hospitals without a careful understanding of how quality is perceived, is to act without essential information.
4. **Patient Payments.** Attempts to assess the effect of increased user fees at Bangladesh hospitals without an assessment of how all payments and payment sources affect the patient’s view of prices are probably flawed. Price elasticity of demand studies related to user fees must take all patient payments into account and look deeply into sources for patient payments as well.

### *Theoretical Issues in the Rapid Survey*

Rapid survey results are non-random and non-generalizable findings. But they do point to new hypotheses to be tested systematically and to theoretical matters of importance to the collection of user fees at Bangladesh hospitals. Theoretical approaches to assessing the effectiveness of the prevailing price mechanism at GOB hospitals for resource mobilisation must be assessed along with approaches to determining how quality improvements will affect the consumer demand (revenue) and supply (cost) function.

#### *Microeconomics, Quality Perceptions, and User Fees*

Standard microeconomic utility maximisation theories is a useful tool in explaining the household member’s decision to select health care from a particular facility (or even to opt to forgo it). Treating health care as a consumer item, allocation of a household’s budget (that includes dissavings) is influenced by relative prices and the corresponding utility derived from each of the commodities and services included in the basket of health services.

More specifically, in deciding whether to seek medical care at a particular hospital, individuals and their families assess the expected benefits and the estimated costs. The attractiveness of the facility is dependent on the relative expected costs (expenditures) compared to alternate medical facilities in that area as well as neighbouring Thanas and districts, including for some household services in Dhaka. Aside from direct medical *costs*, travel costs (direct and time cost) also are factors in household decision-making. In terms of *benefits*, households generally compare the quality of service from the private clinics of Mymensingh, alternate district hospitals, and also those in Dhaka city. Both the expected costs and expected benefits also are influenced by the type of disease or injury, the severity of the case, and, correspondingly, the availability and perceived quality of medical facilities among the alternate facilities.

### *Disease and Information Effects*

Because the nature and type of disease are likely to play an important role in the selection process of a medical centre, price factors are assessed in a context. In the case of an emergency, distance may play a major determining factor, while in the event of a complicated procedure, requiring specialised treatment, a comprehensive medical college hospital is likely to be sought over smaller clinics-- regardless of prices [user fees].

Personal contacts and familiarity with physicians, hospital staff also are likely to influence in selecting a health facility and, in turn, the operation of price change through user fees. Unlike the private sector, in a government operated hospital, which is highly subsidised, there is greater autonomy of preferential treatment which hospital personnel can bestow.

The level of information about estimated costs and the expected quality of treatment will vary from patient to patient. Those who do not have previous experience with the hospital (or any hospital, for that matter) and with its treatment procedures are especially ill-informed. This is further accentuated in the case of emergency patients who may be forced to access the nearest medical facility without focusing on budgetary constraints. In general, a households' knowledge of costs for services at public, subsidised hospital is likely to be more vague than their knowledge of private Bangladesh clinics.

### *"Unofficial" Costs*

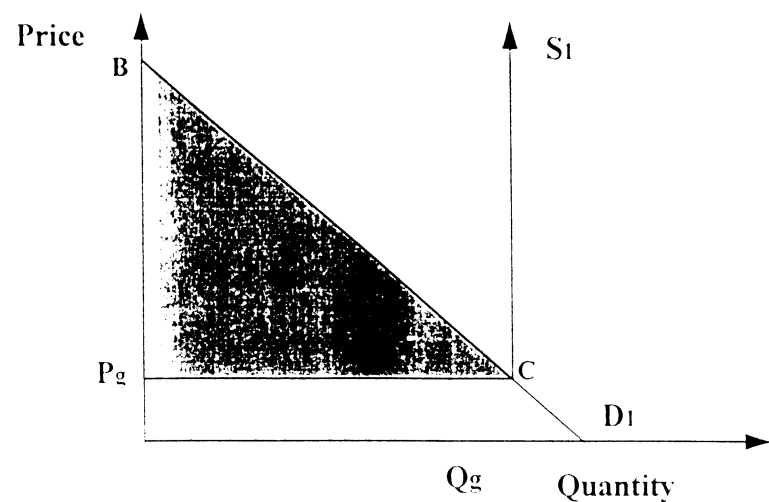
Although the official costs--which are charged to the patient, accounted for, and entered into hospital revenue accounts--may be known to patients, various expenses are incurred during hospitalisation which may not be anticipated or understood. It is alleged in news accounts that patients are told that drugs are not available or that support personnel coercing them to buy those drugs through them in the private market. Presumably, medicines are to be purchased and support service personnel are to be regularly tipped to ensure timely treatment. Moreover, medications, supplies, and even minor yet essential surgical items (e.g., catgut) may run out at the facility so that a "facilitator" may be needed to buy commodities for the patient on the open market.

The subsidy at GOB hospitals is supposedly highest for the poor who officially pay the hospital no more than the admission charges. The discriminant analysis of the rapid survey raises questions about whether, indeed, the subsidies targeted towards the poor meet the objective. In rapid survey responses, the poor and the non-poor alike pay the same "unofficial" charges, thus negating the effect of exemption from "official" charges. If the relatively well-to-do prove to be the prime beneficiaries of subsidies intended for the poor, it may be wise to reconsider further increases in user fees. This question should be raised from resource mobilisation grounds as well from fairness grounds and in terms of concern for equality of access. Finally, issues on qualitative improvements in the services are addressed.

A good place to begin the analysis of these issues is with microeconomics. A simplified demand and supply for services model for a publicly owned hospital is presented below to highlight the economic implications of the prevailing subsidies.

According to Graph 4, the government-regulated price is set at  $P_1$  and the quantity demanded is  $Q_1$ . For simplicity purposes it is assumed that there is no excess demand at  $P_1$  price [taking into account simplifying assumptions for purposes of presentation]. While the demand curve is downward sloping, the supply curve in the short run is assumed to be totally inelastic.

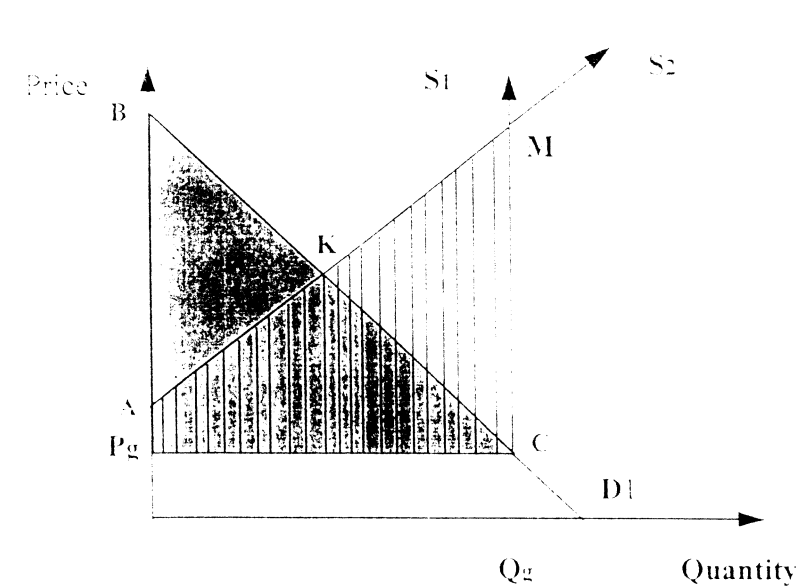
Graph 4: Consumer Surplus



The *consumer surplus* -- the difference between what a consumer is willing and able to pay and what he actually pays -- is the shaded area BP<sub>g</sub>C in the graph. It is apparent that the lower the government set price, the bigger will be the consumer surplus enjoyed by the consumers. It is hypothesised that various actors are involved in trying to extract much of the consumer surplus. The fact that patients cannot switch to another

service provider, as would be the case for many consumer goods or services in a competitive market, encourages many to partake of the excess benefit. Recall that in the rapid survey, the clear majority of patients came to MMCH on the basis of doctor referrals. Individuals and groups providing the services have greater access to such opportunities, although various middle men located outside the medical facility may also get involved. If such phenomena exists, real costs are incurred by the various actors in trying to enjoy part of the consumer surplus. Hospital staff would be compromising on their responsibilities, and consequently on the quality of service, if they seek to cater to those who patients who voluntarily or under duress make payments to these agents to seek services which supposedly are free and readily available.

Graph 5: Net Welfare Gain to Society



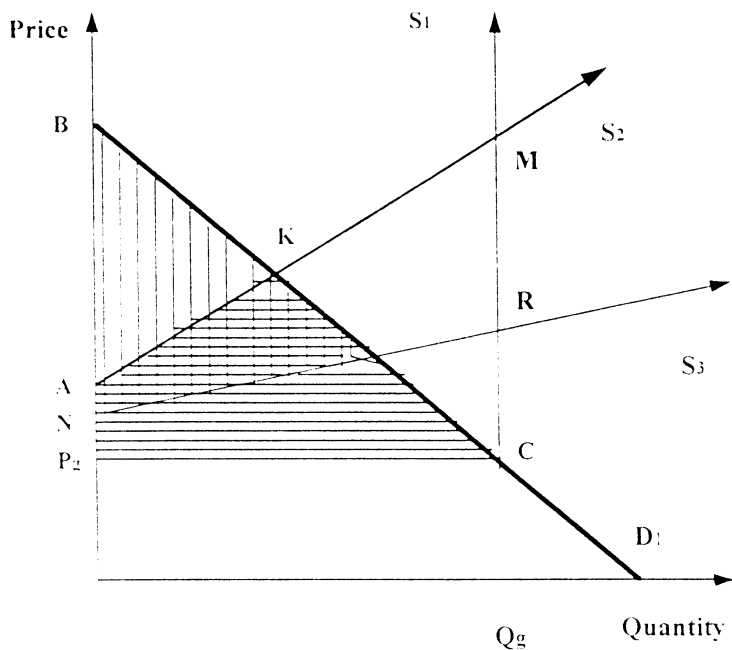
Graph 5 shows the actual cost curve (supply curve), S2, of providing medical services, with the shaded area, P<sub>g</sub> AMC reflecting the level of subsidy. *The net welfare gain to the society* is equal to the difference between the consumer surplus area and the cost of subsidy area, i.e., ABK - KMC. It is understood that *a priori* it cannot be assumed that, as a whole, gains or losses are due to the presence of the medical facility. However, it is imperative to acknowledge that the absence of this service institution can totally

deprive certain individuals or groups from seeking assistance from any alternate substitutes either because of price constraints or because of distance.

Graph 6 reflects a shift in the supply curve from S2 to S3, which can result from improvements in utilisation of resources. It is generalised that if rent seeking activities emanating from the presence

of high consumer surplus can be curtailed, resources can be diverted towards attending to the needs of the customers (patients).

Graph 6: Reduction and Consumer Surplus



As a consequence, the size of the subsidy would diminish and society in general benefit. In Graph 6, the surplus reduces from the area shown as  $P_g$  AMC to  $P_g$  NCR. By increasing the price, preferably discriminating against those who are further on the top of the demand curve, two socially desirable goals are met. First, unproductive rent seeking activities are minimised. Second, there is an increase in revenue generated. Nevertheless, the biggest challenge in adopting such a strategy is to ensure that the patients are no worse off either in terms of the total unofficial payments they have to

make or that the quality of services are not compromised further. Finally, a safety net for the very poor, who indeed would not be able to access the medical facilities at higher user fees, should be developed. It is argued that the prevailing exemption system thought to serve as a safeguard of the extremely poor from the impact of price increase through user fees, may be misused by those who can afford to pay.

## Section H: User Fees, Inequality and the Poor

### *Inequalities and User Fees*

The previous section raised multiple questions about the conditions under which user fees can fairly and efficiently be utilised at Bangladesh hospitals. Certainly, if patient perceptions are as they appear to be in the HEU rapid survey, then much remains to be done to ensure that user fee increases do not further worsen the reported quality perceptions of the population. Since many questions concerning income groups--especially the poorest of the poor--are of concern, it is important that *equity issues* be addressed in the collection of user fees. Presently, user fees are collected against all those seeking hospital services, *unless the patient is exempted from payment*.

The pattern of user fee exemptions discussed above and the potential within the current arrangement for discriminatory management of the collection process or for an inequitable disbursement of user fee collections raises questions concerning *inequality* at GOB facilities. Are civil servants, student physicians and nurses, and hospital employees, for example, granted, in fact, a subsidy of greater value than the one granted to the poor? Further, what form of fairness can be said to underlay a system that collects user fees and them used for *non-health* uses covered in the general revenues of the Treasury? In simplest terms, does the user fee system raise pressing questions of equity for the Bangladesh health sector?

Economists Heilbroner and Thurow suggest that inequality may be justified when:

1. **Reason 1:** If everyone has a fair chance to get ahead;
2. **Reason 2:** When it is the outcome of individual preferences;
3. **Reason 3:** When it clearly reflects merit;
4. **Reason 4:** When we are convinced that inequality is for the common good.

The justification for stratified inequality in the incidence of user fees at Bangladesh district and medical college hospitals must be inferred, but it is likely that student physicians, nurses, and hospital employees are exempted in accordance with Reason 3, while civil servants are exempted on the basis of a combination of Reasons 2 and 3. It is likely that the poor are exempted largely according to some version of Reason 3 and 4, but it is hard to say for exempted "middle" income sectors.

In general, it is important to see that, in the end, user fees and most cost-recovery schemes either add to or even create inequalities. *The critical issue, from a standpoint of economics, is to find a balance between inequalities and social benefits.* As Douglas Rae<sup>9</sup> has expressed the matter:

**Imbalance Rule:** *We should pursue equality until it begins to hurt those it should help most--those who are least advantaged by existing inequalities. Another (complementary) interpretation is to say that society should let inequalities stand but only if they are advantageous to their victims.*

The **Imbalance Rule** is largely derived from Reason 4 from the Heilbroner/Thorow list. Nevertheless, user fees collections, fund management control systems, and user fee exemption

<sup>9</sup> Rae 1981

schemes must be examined for equity reasons as well as feasibility. Inequality concerns must be integrated into any full-scale policy favouring widely expanded and energetically collected user fees.

User fees must be applied fairly, even under the aegis of the **Imbalance Rule**. The discussion of the rapid survey data showed that, from a health economics standpoint, user fees appear to consumers to be applied in such a way that some benefit greatly from health service access because those services are comparatively under-priced. These persons taking a great portion of the consumer surplus may be the most likely groups who should be asked to pay more.

### *Consumer Surplus and the Self-Selection Approach to User Fees*

#### *Absorbing "Consumer Surplus"*

Griffin<sup>10</sup> has argued that, depending upon the actual nature of demand and supply curves for health services as well as their initial price, price increases levied in the form of additional user charges can result in a reduction of the amounts that consumers are willing to pay for health care but do not pay. By a reduction in *consumer surplus*, both price charged (and, hence, user fee revenues collected) and services (outputs) made available to consumers increase. In brief, then, user fees that reduce *consumer surplus* can make the few persons who have benefited from their relatively privileged access to scarce health services worse off. But at the same time, the entire lot of consumers are likely to gain--particularly if the quality and quantity of services are increased as the consumer surplus is reduced. In this sense, user fees may reduce welfare and utility for the few and yet provide overall benefit of the many.

But, as noted regarding *inequalities*, user fees, may have a detrimental effect on the poor since, as prices rise, some are willing but unable to pay the user fees involved. User fees *can* result in denied access for the poor. The critical question becomes:

"If *consumer surplus* is to be absorbed by raising health care prices through user fees, what should be done to protect the poor?"

This question involve two other concerns:

1. How can policy-makers devise a scheme that successfully targets or exempts the poor?
2. What is the most efficient way to go about absorbing consumer surplus?

#### *Equitable Targeting and Exemption*

Unfortunately, exemption schemes often miss the intended beneficiaries while being costly to administer. Reaching the poor through public policy is not a simple process of aiming at a target. Targeting the poor can run into three different sets of problems -

1. Technical feasibility of accuracy in targeting.
2. Application of exemption scheme;
3. The ability of the poor to make use of their exemptions

Under such circumstances, *self-selection* allied to user-fees has emerged in Bangladesh as a possible way forward.

---

<sup>10</sup> Griffin, 1993



### *Self-Selection and Consumer Surplus*

What exactly is *self-selection* in this context? Rather than attempting to determine rich and poor by using some agreed definition it may well be simpler and less costly to let people identify themselves. Given the problems of direct intervention, as embodied by targeting and exemption enforcement, it may be easier to use the market, where possible, in this self-selection process.

People identify themselves as rich or poor when it is in their own interest to do so. Most generally, this requires that the market associated with health care is segmented and that patients or consumers be free to choose whichever section of the market is most suited to them. Hence by infusing the market for health care with certain incentives patients will reveal their wealth through their purchasing decisions. Ideally, the rich will choose an option commensurate with their budget and the poor will do likewise. *Under the right circumstances* self-selection can succeed where exemption schemes have apparently failed or perhaps more realistically, self-selection will prove less inaccurate or more cost-effective at targeting than other schemes and collecting *consumer surplus*. Thus self-selection may make the application of user fees viable and in some senses “equitable” in instances where the benefits might otherwise have been outweighed by the costs.

Yet, would self-selection avoid all of the problems associated with targeting? Certainly, it avoids some problems. The beauty of a self-selection approach is, that it proposes a relatively simple alternative to potentially complex and costly targeting schemes, which are frequently flawed. Nevertheless, self-selection may court disaster. Where there is a lack of *information* about market options and a *stigma* associated with certain health care purchasing decisions, inaccurate and expensive targeting can result. This result, in turn, can undermine attempts to increase both price and service output through targeted user fee collections.

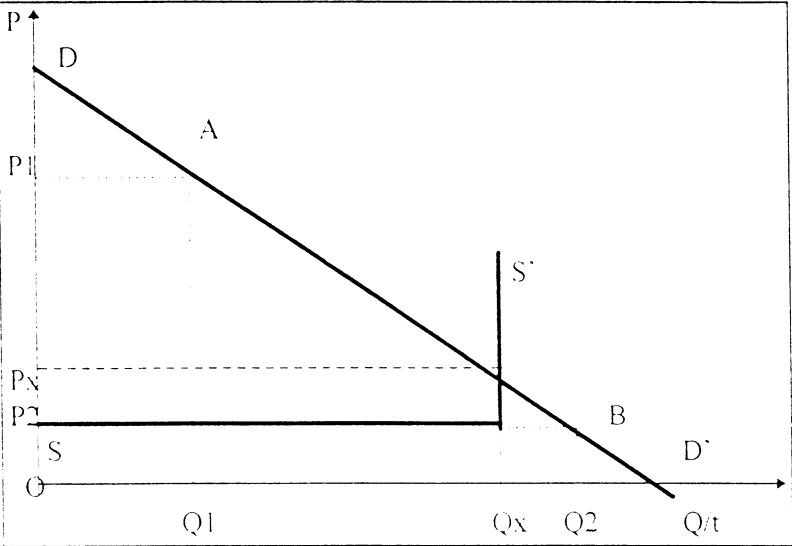
To examine the appropriate conditions for user fee collection, it is useful to consider district hospital and medical college hospital user fee approaches. District hospitals and medical college hospitals in Bangladesh are characterised by excess demand, being nearly always full beyond capacity. This is partly due to the perceived failure of Thana Health Complexes [THCs]--the next level of health care tower down the GOB health infrastructure--to meet patient needs--and also partly due to medically-inappropriate referrals from THCs. For medical college hospitals excess demand also reflects a widespread, popular conviction that these facilities are the ones to go to with *serious* or catastrophic health problems. These perceptions reinforce in the mind of the patient the notion that district and medical college hospitals can meet needs, whereas THCs cannot. Seriously ill patients are more likely to bypass the THCs and go direct to the district or medical college hospital in the future.

When the patient arrives at these hospitals he is faced with a choice concerning fee payment. He finds that, beyond fixed fees, the market has been differentiated into a *paying* and a *non-paying* category. *Non-paying* patients, as was shown above, actually pay a variety of official and unofficial charges for inpatient admission and may pay other charges, but their stay on the ward and consultations with and care from medical staff are free. The hospital market presented to consumers can be divided into *hotel* service choices and professional quality of care choices.

The economic theory of this situation is summarised in Graph 7. Here the demand curve for health is shown, by DD'. This details the amount of health care which is demanded at a given price. The lower the price of the health care the more demand there will be. The limited supply at the hospital is reflected by the kinked supply curve SS'. Currently, the market is stratified into two sections: a small number of *paying* patients (Q1) who pay a relatively high price (P1) for their health care while being exempted from payments they are in all likelihood willing and able to make and a large number of

non-paying patients (Q2) who pay nominal fees (P2) for their health care. P2 is below the market clearing rate Px, which leads to a waiting list (Q2-Qx).

Graph 7: Supply and Demand at the District Hospital



It is especially important to note that in the graph both sets of patients are exposed to the same basket of *health care* services through their admission but purchase different *hotel* services. (See, HEU, *User Fees, Self-Selection, and the Poor in Bangladesh* HEU; August, 1996 for a full discussion of *self-selection* and *user fees*).

Now it is possible that there is some overlap between these hotel services and the health care

received by the paying patient, through additional mental well-being and better nutrition. Nevertheless, the patient's decision in the market is largely restricted to his consumption of non-health goods, where there is less chance of *market failure* because of better information. The patient decides which service to take on the basis of whether he considers his money well spent on the private cabin. His decision, it is hoped, is based on the income and wealth of his household. The two-tier market in the district hospital allows the authorities to extract additional revenue, or *consumer surplus*, while patients self-select whether they are rich or poor.

The patient chooses his market option on the basis of the utility he will derive from non-health goods in relation to their cost. This leaves aside perceptions of the quality of health care being offered. We can state this more formally below. The patient seeking admission to the district hospital will choose the paying option where:

$$Uf(E, MC1) \geq Uf(MC2) - Uf(P1 - P2) \tag{1}$$

Where U is the patient's utility  
f is a function of  
E are the non-medical, hotel goods received by the patient when paying P1  
MC1, MC2 are the medical care received under the respective market options  
P1 and P2 are the prices associated with the paying and non-paying options

$$\text{If } Uf(MC1) = Uf(MC2) \tag{2}$$

Then the patient will choose the paying option, as long as :

$$Uf(E) \geq Uf(P1 - P2) \tag{3}$$

The decision will be made on the basis of the patient maximising utility subject to a budget constraint. As equation 3 shows, the critical feature will be the valuation of E in relation to the difference between P1 and P2 and not on a more problematic evaluation of MC1 and MC2. Hence the

successful application of self-selection, in this instance, appears to depend upon limiting the consumer's evaluation to non-health matters.

There are various assumptions which underpin the success. Namely, that there is sufficient information about E given to all patients and that they perceive MC1 to be equal to MC2 (even if this is not the opinion of the medical officers). It might be assumed that the best way of equating MC1 with MC2 in the mind of the patient would be to make the medical services equivalent, but this is, in itself, not sufficient. The patient again needs information to make a rational market decision. If MC1 does not equal MC2 then the patient is faced with information and learning barriers about the good he is to consume which may undermine a medically appropriate market result.

Hence, under the right market conditions, there is no reason why there should be a failure of the self-selection process. The two-tier market choice faced is based on the consumption of *non-health* goods. Furthermore, the choice concerns goods which are largely private in their conferral of utility. Hence, neither is there an information barrier associated with the purchasing decision nor are there externalities from the decision. Even in an emergency there is nothing to gain, from a *medical* perspective, by choosing the more expensive service (and neither has any other patient). If this is known to the individual then he will choose the option which is perceived as commensurate with the resources of his household. Even where the patient is not able to make the decision, i.e. he is too ill, the patient's agent will be making a decision on the basis of the non-health market, where there are fewer information problems. Regulators are also able to rest assured that the patients' consumption of goods is not public in any way. Hence, the following generalisation may be followed to determine the judicious application of self-selection in development contexts:

**General Application Rule: where the patients' decision is restricted to non-health matters and has no external medical impact on others then self-selection would seem to be a viable option for protecting the poor.**

This general proposition about self-selection has been qualified in several important ways in the HEU *Research Note No. 5, User Fees, Self-Selection, and the Poor in Bangladesh* HEU: August, 1996. The most straightforward clarifications concerns difficulties that are encountered when attempting to segregate *health matters* and *non-health matters*. But such problems are largely operational ones rooted in the effect of *perception* on health status and patient's recovery. It is probably wise to leave these concerns to practitioners.

More fundamental questions about how to apply the general principle include the requirement that cross-subsidies or collection from those best able-to-pay and support for those least-able-to pay. These refinements have been collected into a set of applications criteria for the use of the self-selection concept for user fee collections.

The study of self-selection raises numerous interesting questions about user fees, including some of the larger questions about *what* consumers think they are consuming and *what* providers think they are providing. In addition, the work forces to some extent a re-examination of the underlying assumptions about *inequality* involved in the application of user fees through self-selection and price discrimination methods.

### ***Inequality and the Management of User Fee Funds***

In World Health Organisation publications<sup>11</sup>, the management of user fee funds has been highlighted as crucial for fairness. If decentralised uses of funds are to take place, they must be managed capably

<sup>11</sup> *ibid.*, 1995

and through adequate banking and accounting practices. If the potential for local quality improvement is undermined, then, in much the same way that defective targeting can undermine user fee collections, the perception of the population that fairness is not involved in the generation of user fees will undermine quality perceptions.

A final management issue concerns the use of scarce resources to meet professional needs vs. the meeting of felt needs<sup>12</sup>. It is not easy to decide that professional judgement should come before public demand. Nevertheless, if perceptions of quality at a facility rise or fall on the extent to which antibiotics are dispensed and even over-prescribed, then professional judgement that equipment maintenance and operational supply provision may have to be chosen first--however unpopular the choice.

Even though management of user fees is not thought of first as an area where inequality issues must be addressed, it is very important that such issues be considered with care. If user fees and fairness are to be linked with the management of consumer surplus, then such matters as the use of user fees to curb "unofficial" charges or to ensure that those in greatest need are not hurt by inequalities in fund collection must be given most serious consideration.

---

<sup>12</sup> Unger and Killingsworth, 1989

## Section I: Conclusions and Recommendations

This report on user fees at district and medical college hospitals consists of a multi-sided and empirical treatment of user fees in Bangladesh. Major subjects covered in the report include:

1. A discussion of the history and evolution of the HEU's *Resource Mobilisation Pilot Programme* research effort after the *Paris Consultative Conference* in 1995.
2. A presentation of the official structure of user fees operated by the Ministry of Health and Family Welfare at its district and medical college hospitals.
3. A summary of current revenue collections for user fees at GOB hospitals accompanied by a description of the exemption system presently in use at these facilities.
4. A sensitivity analysis of various user fee collection scenarios at district and medical college hospitals in Bangladesh, one emphasising price elasticities of demand estimates for "official" user charges.
5. A report on a *rapid survey* of former inpatients at the Mymensingh Medical College Hospital to determine their perceptions of quality and willingness/ability-to-pay for services at the hospital.
6. A discussion of inequality issues that affect the collection of user fees at Bangladesh hospitals, one which emphasises the potential of self-selection approaches to equity and access questions

What is most evident from the report are two main points:

- **Management of User Fees.** The importance of careful management of user fee collection cannot be over-stated. Fund uses *must* be carefully targeted to focus upon operating costs that could yield evident quality improvements for consumers *and* for those attempting to provide professional health care at the hospitals of Bangladesh.
- **User fee levels and Inequalities.** As user fee collections are increased at public hospitals in Bangladesh, care should be given to the reduction of "unofficial" charges and other forms of inequality that may undermine attempts to raise quality while protecting the interests of the very poor.

In view of these main points, the report provides the following recommendations for consideration by policy-makers.

### *Recommendations*

In the development of a full resource mobilisation effort, policy-makers in the health sector of Bangladesh must bear in mind the need to examine the financial dynamics of cost-recovery efforts. As this paper shows, specific approaches to resource mobilisation may have multiple impacts, many of which interact with other features of health care provision.

If equitable user fee collections are to take place at Bangladesh hospitals, then it is recommended that the following points be taken into account:

1. User fee impact must be studied closely to determine “price elasticity of demand” estimates which take into account “unofficial” charges as well as official ones. These “elasticity” estimates should then be used to reduce system leakage where it exists and can be controlled.
2. User fees implementation schemes should anticipate the fullest absorption of consumer surplus in a manner that clearly benefits the most vulnerable elements of the population.
3. Quality features should be linked with ability-to-pay and willingness-to-pay information so that user fees can be collected in a dynamic manner, i.e., one that anticipates the multiple perceptions of quality possible across income groups and between professionals and the general public.
4. User fee collections should be maximised by application in the outpatient area of hospitals if it is clear that the poor will not be damaged in the process.
5. Where a reasonable split can be attained between hotel or food services at a facility and medical or professional areas of judgement, user fees should be applied through the mechanism of self-selection.

These recommendations concern both equity and financial efficiency. The collection of user fees must strike a reasoned balance between the two.

## REFERENCES

- Creese, Andrew User Charges for Health Care: A review of recent Experience Health Policy and Planning, **1991** 9: 61-71
- Gertler, Paul and van der Gaag, J. The Willingness to Pay for Medical Care: Evidence from Two Developing Countries. **1990** Washington, D.C. and Baltimore: Johns Hopkins University Press for the World Bank
- Griffin, Charles C. Welfare Gains from User Charges for Government Health Services, Health Policy and Planning, **1992** 7(2): 177-180
- Indradjaya, S. The Effect of User Fees on the Utilisation of Health Centres in West Nusa Tenggara and East Kalimantan, Indonesia **1995** Regional Conference on Health Sector Reform in Asia Manila: Asian Development Bank
- Janowitz, Barbara and Gould, Brian J. Contraceptive Use and Prices: Is there a Relationship. **June, 1994** North Carolina: Family Health International
- Kutzin, Joseph, Experience with Organisational and Financing reform of the Health Sector, **January, 1995** New York: World Health Organisation; WHO/SHS/CC
- McGreevey, W. P., et al. Hospitals as Insurance: An Exchange of Views Internet Distribution; **June 19, 1996**
- Rae, Douglas. Equalities, **1981**, Harvard Press University
- Unger, J-P. and Killingsworth, J. Selective Primary Health Care: A Critical Review of Methods and Results Social Science and Medicine **1986** 22; 1001-1013

# Appendix I

## Questionnaire

### Introduction

1. Name: \_\_\_\_\_

Address: \_\_\_\_\_

2. Period of stay at MMCH: From \_\_\_\_ To \_\_\_\_

3. Total number of days at MMCH: \_\_\_\_\_

4. (a) What were the reasons for your admission at MMCH:

- (i) Medical Treatment
- (ii) Surgical Treatment
- (iii) Others (specify) \_\_\_\_\_

(b) What was the disease?

(c) Any complications since the surgery/treatment at MMCH? Yes/No

5. Was it the first time you got admitted at MMCH? Yes/No

6. Aside from this visit, how many times have you been to this hospital as a patient \_\_\_\_\_

7. Why did you chose to seek treatment at MMCH?

- (i) Referred by a doctor
- (ii) Recommended by friends/Relatives
- (iii) Relatives/friend working in the hospital
- (iv) On my own
- (v) Other (specify) \_\_\_\_\_

8. Prior to going to MMCH, did you visit any thana health complex \_\_\_\_;  
private clinic \_\_\_\_; medical doctor \_\_\_\_; others \_\_\_\_\_

If Yes, how many times \_\_\_\_\_

9. How was your admission arranged?

- a. Normal hospital procedure
- b. Through someone/employee of the hospital, after paying tips
- c. Doctors recommendation/consultation
- d. With the help of doctors working in the hospital
- e. Relatives/friend working in the hospital
- f. Other (specify) \_\_\_\_\_

10. Did you face any problems in getting admission in MMCH? Yes/No  
If yes, what types of problem?



11. How long did you had to wait to be examined by a doctor, after your admission at MMCH? \_\_\_\_ hours \_\_\_\_ minutes

12. How long did you had to wait for treatment, after your admission at MMCH? \_\_\_\_ hours \_\_\_\_ minutes

13. Do you think the duration of your stay at MMCH was:

- a. Longer than necessary
- b. Shorter than necessary
- c. Adequate
- d. Don't know

If the answer is (a) or (b) ask for the reason:

14. Where did you stay at MMCH for treatment?

- a. cabin
- b. paying bed
- c. non-paying bed
- d. floor
- e. veranda

15. Did you face any problems in getting a bed or a cabin? Yes/No

If Yes, what type?

16. Please rank the following services provided by the hospital:

	Excellent	Good	Average	Poor	Don't Know
Quality of service provided by					
professor	[ ]	[ ]	[ ]	[ ]	[ ]
doctors	[ ]	[ ]	[ ]	[ ]	[ ]
interns	[ ]	[ ]	[ ]	[ ]	[ ]
nurses	[ ]	[ ]	[ ]	[ ]	[ ]
ward boy	[ ]	[ ]	[ ]	[ ]	[ ]
aya	[ ]	[ ]	[ ]	[ ]	[ ]
administration	[ ]	[ ]	[ ]	[ ]	[ ]
Cleanliness of the hospital	[ ]	[ ]	[ ]	[ ]	[ ]
Quality of food	[ ]	[ ]	[ ]	[ ]	[ ]
Quantity of food	[ ]	[ ]	[ ]	[ ]	[ ]

17. Did you purchase medicine from when you stayed at the hospital? Yes/No

If yes, what percent of total medicine/supplies expense? \_\_\_\_\_%

Willingness to Pay:

18. Who covered expenses of the hospital your treatment:
- Myself from current income
  - Myself from cash savings
  - Myself by cash borrowing from friends/relatives
  - Myself by cash borrowing from money lenders
  - Donation from friends/relatives
  - Sold assets
  - Others (specify)

If borrowed, then how are you going to pay back:

- From cash saving
- Borrowing from past creditor individuals
- Borrowing from past/current institutions (e.g. Grameen, cooperatives)
- Savings on food (less # of meals, quantity, quality)
- Compromising on children's education
- Selling assets
- Others (specify)

19. How much money did you pay while you were in the hospital? Officially \_\_\_\_\_ Unofficially \_\_\_\_\_

Did the cost of treatment exceed your budget limit? a. Yes b. No c. Did not have any limit  
If yes, how much more \_\_\_\_\_ % and If no, how much less \_\_\_\_\_ %

20. Having received treatment from MMCH, do you think in future you will seek treatment from MMCH again?  
For self [ ], For relatives [ ]

If not, why not: ,

If Yes, why:

21. List 3 areas you would like to see improvements at MMCH?

- \_\_\_\_\_ If improvements were made would you like to pay more? yes/no, If yes, how much \_\_\_\_\_
- \_\_\_\_\_ If improvements were made would you like to pay more? yes/no, If yes, how much \_\_\_\_\_
- \_\_\_\_\_ If improvements were made would you like to pay more? yes/no, If yes, how much \_\_\_\_\_

22. How would you rank the hospital's treatment compared to:

	Excellent	Good	Average	Poor	Don't Know
Private Clinic	[ ]	[ ]	[ ]		[ ]
Thana Health Complex	[ ]	[ ]	[ ]		[ ]

23. If the cost is same in Govt. hospital/Clinic ect. then where would you go for treatment?

- a. Govt. hospital    b. Private Clinic    c. Dhaka    d. Others

## Personal Information

24. Age: \_\_\_\_\_

25. Religion: \_\_\_\_\_

26. Marital Status:

- a. Married    b. Unmarried    c. Divorced    d. Widowed    e. Others

27. Education: \_\_\_\_\_

28. Occupation of Self: \_\_\_\_\_

29. Occupation of Household Head: \_\_\_\_\_

30. Relation of Household head: \_\_\_\_\_

31. No. of people living in Household : \_\_\_\_\_

32. No. of earning member in the Household:

33. Source of Income of Household

- a. Service    b. Business    c. Agriculture    d. Others

34. Total monthly income (all source): \_\_\_\_\_

35. Total monthly expenditure of Household:

- a. Housing \_\_\_\_\_ \month  
b. Education \_\_\_\_\_ \month  
c. Medical care \_\_\_\_\_ \month  
d. Food \_\_\_\_\_ \month  
e. Others \_\_\_\_\_ \month

36. Housing Ownership

- a. Own housing  
b. Rented  
c. Shared  
d. None

37. House with electricity:    Yes/No

38. Water supply (Drinking water)

- a. Central supply    b. Tubewell    c. Well    d. Pond or river    e. Others