Accessibility and Quality of Government Primary Health Care: Achievement and Constraints

by

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The paper deals with accessibility and quality issues of primary health care after the initiation of health sector reforms since 1998 using data from an exit survey of a nationally representative sample of service users of government primary health care facilities. It analyses opinions of service users on a relevant set of structure and process dimensions of care within a framework of assessment of quality of care. The results indicate that the majority of the service users are dissatisfied with the existing level of quality of care at the public health care institutions. They are found to be dissatisfied with such aspects of care as waiting time, cleanliness and privacy of treatment, and expressed serious concern about the quality of inpatient food, availability of prescribed drugs and medical supplies at the health centers. Significant variation in quality of care has been identified by age, distance to the health center, facility type, medical expenditure, type of service and by region in out patient care; and gender, facility type, medical expenditure and by region in inpatient care. In terms of ranking of relative importance of different dimensions of care, the service users attached foremost importance to the responsiveness of doctors/service providers and secondly the availability of prescribed medicine at the health centers.

I. INTRODUCTION

Until recently, improvement of health status through development of physical and human infrastructure was priority concerns of the government of Bangladesh. Of late, interest in quality of care has received renewed impetus in response to recent health sector reforms, accompanied by significant organisational and structural changes in the context of low and dwindling share of utilisation of public

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health services.[1] Public health services still occupy an important position despite remarkable growth of private sector which dominates in ambulatory care both in rural and urban areas. However, institutional delivery of primary health care services is largely governed by the public health sector, especially in rural areas. Although majority of the clients seek medical care from the private and NGO sectors, the quality and access to these services are far from satisfactory (Ahmad 2003). As public health services are primarily meant for catering to the needs of the underserved population, it will continue to play a significant role as a service provider because of market failure and especial characteristics of primary health care services.

Bangladesh has achieved significant progress in health and population indicators during the last few decades due to increased access to health and family planning services through a combination of facility level, community and household level service provision strategies. Despite development of a wide network of primary health care facilities, access to health services to large segments of the population remained far less than expected and failed to respond to the diverse problems faced by the clientele population. Although only 49 per cent of the clients have access to qualified care, a small proportion of around nine per cent seek health care from public health services (BBS 2007). Currently, around 52 per cent of pregnant mothers receive antenatal care from medically trained providers, and institutional deliveries account for 15 per cent of all births. High discontinuation rate of contraceptive acceptors is mainly attributed to inadequate counseling and management of health related side effects. As a result, progress in reduction of fertility, child and maternal mortality had slowed down since the mid-1990s as a consequence of lack of desired improvement in quality and coverage of health and family planning services. It is felt that improving health indicators further, as set out in the PRSP, will be extremely difficult without significant transformation in quality of care and management of service provision (Mahmud 2004).

In the public sector, performance evaluation is the primary tool for assessing the quality and accessibility of health care delivery system. In this respect, clients' opinions on aspects of care have gained prominence over the past few decades in the West, and only recently in the context of developing countries. Clients' perspectives in assessment of service quality are critical not only to empower

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[1] The share of utilisation of public health services declined from 10.4 per cent in 2000 to 8.6 per cent in 2005 according to the Household Income and Expenditure surveys of 2000 & 2005.

clients to assess the services received, but also for the purpose of monitoring and improving the quality of services. In this paper, an attempt is made to assess the quality and coverage of primary health care services delivered at government service facilities on the basis of clients' perception on quality of care.

II. RELEVANCE TO HEALTH AND POPULATION SECTOR REFORMS

Basic health care to the population has undergone many phases of reforms including the concept of primary health care[2] for attaining health for all. Despite its many advantages, this approach is criticised on giving too little attention to demand for health care rather concentrating solely on perceived needs (WHO 2000). Health system in Bangladesh experienced a gradual shift in primary health care from the approach of selective care[3] to delivery of high quality essential care of selected services to all which is efficient, accessible and equitable. In addition, comprehensive primary health care[4] was introduced in phases in twenty districts covering 109 upazilas since 1988.

The 1994 International Conference on Population and Development (ICPD) held in Cairo and the 1995 World Conference on Women in Beijing signified important changes in health system development that advocated a new broad agenda of reproductive health incorporating an integrated approach including health care, family planning and women's rights. The programme of action of ICPD called for ensuring universal access to health care including reproductive and sexual health based on equality of rights between males and females, emphasising child health and rights, elimination of all forms of violence against women, and access to information and education. To implement the new programme would require enhanced physical and human resources with appropriate training and supervision of service providers leading to the provision of a range of quality services that are client-oriented and demand driven, and would improve access to services.

Bangladesh inherited an urban-biased curative health care system. After independence, government's priority was to expand health care services including preventive and promotive care to provide essential health care to the population.

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[2] Three "Pillars" of primary health care defined by the Alma Ata Conference 1978 were establishment of health facilities and services nearest to clients, community participation and multi-sectoral cooperation.

[3] Disease based cost-effective medical interventions such as MCH-FP that would maximise improvement in health.

[4] It is a holistic approach that would deal more effectively basic health care needs addressing the underlying social, economic, and political causes of ill health.

Following the tenets of primary health care government adopted a "close-to-client" policy and established a wide network of primary health care facilities from upazila to the union and to the community/ward level. A review of Fourth Population and Health Project, which ended in 1998, raised concerns about the overall poor utilisation of public health services as well as concerns about the cost-effectiveness, sustainability and quality of services (MOHFW 1998).

In response to the new agenda of RH, Ministry of Health and Family Welfare (MOHFW) formulated the Health and Population Sector Strategy in 1996 and subsequently implemented Health and Population Sector Programme (HPSP) (1998-2003), incorporating a client-centred service delivery approach. The overall goal of the programme in line with the international "new universalism" approach was to ensure universal access to cost effective essential care including preventive, curative and promotive measures with especial emphasis on the high-risk groups such as women, children and the poor. The new strategy stipulated significant policy and organisational changes with a view to improving quality.

HPSP introduced a sector-wide approach (SWAP) instead of a project-based approach with a single resource plan, and incorporating joint strategies in prioritising activities by the government and the donors. The objectives behind introduction of SWAP were to avoid duplication of activities, increasing operational efficiency and reducing cost. However, it was introduced without sufficient capacity building, and as a result speedy transition to SWAP management resulted in delays in providing supplies and logistics, insufficient coordination of key functionaries at all levels and hampered fund utilisation because of lack of clarity regarding new financial system (MOHFW 2003).

An Essential Services Package (ESP) was launched designed to provide an integrated package of basic services including reproductive health, MCH and other interventions of public good type, in contrast to the earlier vertical MCH-FP programme. In addition, under HPSP one-stop community clinics were established at the village/ward level and proposed discontinuation of community level domiciliary health and family planning services. The new policy proposed unification of health and population activities at all levels and decentralisation and participatory planning of service delivery system. In reality, because of rivalry between the two wings of health and family planning, only partial unification of health and family planning activities at the upazilla level and below could be achieved. Partnership of the public sector with the private, not-for-profit and NGO sectors will be encouraged with a view to increasing efficiency of the utilisation of resources.

Decentralisation of health services is believed to be associated with improved performance of the health system in terms of improved efficiency, accessibility and equity. In health services delivery, decentralisation involves transfer of a variety of fiscal, administrative, and political authority from central to local level institutions. In Bangladesh, in terms of administration overall planning, monitoring, and implementation are vested with the apex bodies, while deconcentration of power in the form of some authority for operational planning is vested with the district and upazila level health care institutions. Decentralisation also underlines involvement of local communities in the decision-making process in improving efficiency, quality, accountability, and equity of services. As part of this process, stakeholder committees were formed on a pilot basis at the union and thana level with the participation of vulnerable groups such as poor and women. With a view to involving local communities, community groups were formed as management committees for the community clinics composed of government field workers, members of local government and primary stakeholders. But most of the clinics were not running along the expected participatory path, and many members of the groups expressed disappointment about the clinics' current status and future prospect (Osmani 2003). In fact, lack of community participation as well as lack of supply of essential drugs made most of the community clinics non-functional.

The new policy also brought into focus the human rights perspectives of clients. Bangladesh had no clients' Bill of Rights for the patients receiving health care or for seeking redress for harm caused by providers' negligence. The adoption of the clients' bill of rights under HPSP would impact quality of care from a professional or technical perspective. The objective is to raise the awareness of clients regarding their rights to quality health care which would ensure privacy, informed choice, safety, efficacy, and adherence to an approved fee schedule (MOHFW 1998). In order to ensure providers' rights, clients' rights should also be considered along with providers' rights and needs (Huezo and Diaz 1993). The essential ingredients of these rights are to receive training, information, infrastructure, supplies, respect, guidance, encouragement, and their right to self-expression. In point of fact, service providers in Bangladesh are unwilling to work in rural areas due to lack of modern amenities of life and adequate incentives.

Under quality assurance programme standard operating procedures (SOP) have been introduced in seventeen departments of hospitals and Quality Assurance Officers (QAOs) have been posted at the upazila level to undertake training on various aspects of quality of care. As part of the programme to protect clients' rights to quality health care, clients' charter of rights has been put on display in all public hospitals. To improve the efficiency of logistical management, separate

logistical systems of health services and family planning services were replaced by a unified logistical management system for procurement, storage and distribution.

III. UNDERSTANDING ACCESSIBILITY AND QUALITY OF CARE

Availability of health facilities and services is the essential prerequisite for access to health care. Availability should also conform to the cultural perspectives and specific needs of the population such as availability of required number of doctors and nurses, female doctors, specialist doctors and paramedics. Over the years, Bangladesh has seen significant expansion in primary health care facilities, but still barely adequate to cope with rising demand because of increase in income as well as escalating population pressure.

Access to services, however, cannot be ensured despite expansion of facilities and services. Accessibility has a number of key dimensions, including physical, information and economic accessibility (Osmani 2003). Physical accessibility pertains to distance to health providers including travel time and travel cost and waiting time at health centres. Information accessibility implies that people should have informed choice regarding the sources, types and quality of services. To be economically accessible, services have to be affordable on the basis of equity in financial contribution.

For access to government health services, they should also be of good quality because of increasing competition from private and NGO sources. The quality of health care is defined in a variety of ways in the context of varying socio-cultural and development settings, but so far there is no consensus on a single set of accepted criteria to measure quality. Donabedian (1980), a leading author on quality of care, defined quality of care as that kind of care, which is expected to maximise patient welfare, and depends on whether effective care is sought and individual and social preferences regarding care is manifested. It also underscores the importance of performance of health care practitioners, health care system and relative costs and benefits of patients. One of the most widely cited recent definitions indicates that quality of care is the "degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Lohr 1990). Quality of care is also defined in terms of two key dimensions, access and effectiveness, which implies whether the users get the care they need and whether the care they receive is effective (Campbell, Ronald, and Buetow 2000).

Family planning is an integral component of primary health care. The literature on quality of care in the context of family planning has mainly dealt with issues related to assessment of quality rather than quality of care itself. Here the quality of care may be defined as increased prevalence as well as improved continuation

of contraceptive methods. Increased prevalence has many dimensions including informed choice and reduction of monetary and non-monetary costs of contraception. Increased contraceptive continuation depends upon education and counseling and availability of follow-up services.

IV. ASSESSMENT OF QUALITY OF CARE

Several frameworks have been proposed for identifying different dimensions and assessment of quality of care. Quality assessment aims at understanding the levels of quality dimensions and relative performance of different layers of health care facilities in terms of quality dimensions. World Health Organisation (WHO) has provided a framework to assess health system performance in terms of three overall goals: good health, responsiveness to the expectations of the population, and fairness of financial contribution (WHO 2000). Here good health implies life saving and life-enhancing aspects of care, which refers to technical quality of care. Responsiveness dimension indicates to interpersonal aspects of care, and fairness of financial contribution implies equity aspect of health care.

Quality of care is considered to be a multidimensional concept consisting of both objective and subjective elements of care. Donabedian (1988) first proposed a framework for assessment of quality of care consisting of three main elements: structure, process and outcome. Structure refers to the characteristics of the settings in which care occurs. There may be three main types of structural characteristics such as physical, human and organisational. In essence, structural features underline the readiness or capacities of health care institutions to deliver services.

Public health care system in Bangladesh is now characterised by a large infrastructure of primary health care facilities and a wide range of health professionals working in those facilities. However, primary health care institutions are characterised by shortage as well as absenteeism of doctors and nurses. A Upazila Health Complex (UHC) has a provision of nine doctors but it is staffed by only 4.2 doctors on average (Mannan, Sohail, and Hossain 2003). Developed upazilas are comparatively better off in terms of availability of doctors than their underdeveloped counterparts. However, in general a significant proportion of doctors are found to be reluctant to attend to their duties in rural areas making the availability of doctors even worse. Public health facilities especially at the primary level lacks adequate medical and surgical equipments, logistics, drugs and surgical and diagnostics facilities. Although all the UHCs have pathological units, only normal blood, urine and stood tests are available, and X-ray machines in functioning condition are operative in only half of the UHCs (Mannan, Sohail, and Hossain 2003).

Process of care denotes what type of care the patient receives. There are two key processes: interpersonal care and technical aspects of care. Interpersonal care relates to the courtesy, dignity or responsiveness with which clients are treated. An evaluation from 2000 service delivery survey reported that while 41 per cent of users of government health and family planning services were dissatisfied, only a tenth were dissatisfied with qualified and unqualified private and NGO services (CIET 2001). In addition, very poor people felt that they were discriminated against and treated badly in the government health facilities. The main reasons for dissatisfaction with public services were poor staff attitude (25 per cent), lack of or poor quality medicine (58 per cent), lack of or non-availability of doctors, nurses or specialists (27 per cent), etc. Another study reports that public providers rank low in terms of diagnostic explanation given to patients, courtesy of their staff, cleanliness of facilities and availability of certain medical inputs (World Bank 2005).

Technical quality of care pertains to the application of current clinical knowledge in the practice of providers. Patients' judgments of technical quality of care are often found to be unreliable, and may require objective assessment. Patients' primarily prefer clinically sound treatment, but they also want respectful behaviour from the providers. In reality, care is often inappropriate because of lack of sound technical skills and non-adherence to standard practice guidelines. For instance, in primary health care facilities doctors usually do not undertake physical examination of patients, spend very little time on consultation, and prescribe same kind of medicine for different treatments due to shortage or lack of proper medicine.

Information on the quality of physician care is not well documented. Evidence indicates that a large proportion of public providers and NGO facilities maintain patient records, while lower level private facilities do this to a much lesser extent (World Bank 2005). It also shows that technical quality of services is better in tertiary level hospitals and NGOs show the best scores at the upazila level. Furthermore, perceived quality indicators fare better in the private facilities than in the public facilities. It is, however, argued that the perceived technical quality of care of public health services measured in terms of consultation time plays a lesser role in affecting satisfaction than the interpersonal nature of care or access to care (Aldana, Piechulak and Al-Sabir 2001).

Outcome refers to the change in health status as a consequence of care. Outcome is difficult to measure and may be influenced by a host of other confounding factors such as a patients' lifestyle, socio-economic status, severity of the disease and compliance with the treatment (Mainz 2003). Some outcomes like death or recovery from ailment are easily detectable, but other outcomes cannot be

easily ascertained. Patient outcome is generally viewed as the ultimate measure of quality of care. However, in the absence of a reliable measure of patient outcome, quality of care is usually measured in terms of patients' satisfaction with the process and structure of care. The quality of health care is often used interchangeably with the clients' satisfaction with the services provided and may influence utilisation of services. However, measuring user opinions regarding perceived quality and satisfaction has been a subject of intense debate on the ground that patients may have a complex set of beliefs which is difficult to understand by simple expressions of satisfaction (Williams 1994).

Conceptual Issues Relating to Patient Satisfaction

Previously quality of care was usually assessed from the viewpoint of providers, but recently patient satisfaction is widely recognised as a measure of quality. Patient satisfaction in health care evolving from the concept of consumer satisfaction, but different in many respects, is considered as a process of interaction between patient expectations and patient perceptions or actual experiences with health care (Ware *et al.* 1983). Patients can have expectations on many different aspects of care, and satisfaction with specific aspects of care has independent effects on patients' satisfaction (Abramowtitz, Cote and Berry 1987).

Client centred care as stipulated in the HPSP can be achieved through a proper understanding of patient expectations and preferences and provision of health services that meet those expectations. In the context of primary health care, patients have certain expectations including availability of doctors, low waiting time, better communication between patients and providers and availability of drugs and supplies that lead to improved satisfaction. A satisfied patient is believed to comply with treatment protocol, maintain continuity of care, and ultimately lead to better health outcome (Fitzpatrick 1991).

Fitzpatrick (1984) argues that expectations arise out of social and cultural norms and values that influence satisfaction. In addition, patients may also judge a provider or a treatment on the basis of health benefits received. Finally, he stressed the importance of emotional needs of patients and maintained that too often patients evaluate professional competence on non-technical aspects of care such as humane behaviour and communication skills. As technical quality is difficult to assess, patients in general put more emphasis on interpersonal aspects of care including empathy and assurance from the providers, especially in the context of primary health care. Consequently, with more interaction with the doctors and nurses, their ability to evaluate the clinical aspects of care increase, resulting in increasing evidence that providers and patients perspective of care eventually coincide with each other.

There is growing evidence to suggest that patient expectation depends on the socio-economic characteristics of patients and practitioners and also on the nature and severity of health problem (Zebiene, Kairys and Zokas 2004). Patients from lower socio-economic status are likely to have lower expectations, and thus tend to be more satisfied. On the other hand, expectations will be high from providers with high professional background, for example, from government health care facilities staffed with qualified providers in rural areas. The nature of health problem will also affect quality of care. Primary health care facilities deliver services to tackle a wide variety of health problems, and each of these health problems emphasise attention to specific dimensions of care.

Evidence from patient satisfaction studies suggests high level of satisfaction and low level of variation despite differences in user characteristics and services utilised (Margolis *et al.* 2003, Singh, Haqq and Mustapha 1999). Most studies indicate that patients rarely express dissatisfaction with their care and dissatisfaction is expressed only when an extreme negative event occurs (Williams 1994). However, greater variation in service quality was found when the clients were asked about their opinions on specific aspects of care, such as privacy during examination, cleanliness of the facility, receiving information and medicine, continuity of provider, etc. (Bernhart *et al.* 1999).

Research Questions

The present paper attempts to assess accessibility and quality of services delivered at government primary health care institutions after the initiation of health sector reforms in 1998. In this context, the paper analyses physical dimensions in accessing care. The next research question is the perception and opinion of clients regarding relative quality of selected structure and process dimensions of care and to understand variation of client satisfaction by various socio-economic and facility level factors. It is widely held that satisfaction with health care may be dependent upon factors such as age, gender and socio-economic status.

Age is an important determinant of patient satisfaction, and older people tend to be more satisfied than do younger people. By gender, women and girls having more modest expectations are likely to be more satisfied than men and boys. The quality of care is also expected to vary by the type of services offered, and by the geographical location of health care facilities. Patients belonging to lower socio-economic status tend to receive lower quality treatment than the affluent patients in a health care facility, and are likely to be less satisfied. Outdoor and indoor patients differ widely with respect to severity of the diseases, and their perceptions on quality of care are expected to vary widely. The study also makes an attempt to

analyse the relative performance of different layers of primary health care facilities with respect to quality dimensions. It also examines the relative ranking of two most important dimensions of service the clients would prefer. Finally, a better understanding of the factors affecting global quality of outpatient and inpatient care will allow policy makers and program managers to implement programs in accordance with patients' needs.

V. DATA AND METHODS

The study is based on an exit survey of clients from a representative sample of government primary health care institutions in the country. The institutions that deliver primary health care services are mainly located at the upazila level and below; these are Community Clinics (CC) at the ward level, Union Health and Family Welfare Centres (UHFWC) at the union level, and Upazila Health Complexes (UHC). District Hospitals (DH) also act as second referral source for primary health care. Data for the study came from 6 DHs, 18 UHCs, 18 UHFWCs, and 18 CCs. It may be mentioned that although most of the CCs are now non-functional, 14 out of the 18 CCs visited were found to the operational only on immunisation days. The selected districts were Netrokona from Dhaka division, Bogra from Rajshahi division, Laxmipur from Chittagong division, Magura from Khulna division, Jhalakati from Barishal division and Moulavibazar from Sylhet division. Finally, in each division, the sample comprised of one DH, three UHCs, three UHFWCs and three CCs and a total of 60 facilities in 6 divisions of the country. The data collection was carried out during January-March 2003.

The study objective was to conduct an exit survey of all patients including outpatients and inpatients that received service from the sample health facilities on a single day. All inpatients who were occupying beds in the hospital on a particular day were interviewed after they received service. For outpatients, the average attendance per day was estimated from the patient register based on attendance during the last 3 days preceding the survey. Then the estimated number of outpatients was interviewed using the structured exit poll questionnaire. If the client was a child, his or her attendant was selected as the respondent. A total of 5,752 clients were interviewed, of which 4,666 were outpatients and 1,086 were inpatients.

Information was collected on health condition (diseases/symptoms) of patients for which they sought care from a health facility. The disease burden in the study has been categorised following ESP categories, which is family planning (FP); reproductive health (RH) including maternal care, STD and RTI; child health care (CH) for under five children including preventive and curative care; communicable

disease control (CDC); and limited curative care (LCC) of treatment of common conditions which also includes non-ESP services.

In this study, quality of care is judged on the basis of information on ten potentially relevant aspects of patient satisfaction, which underlines structure and process aspects of care, considered critical in the delivery of client-oriented services. A likert-type category rating scale was used which recorded clients' ranking of various aspects of service quality in a five-way categorical scheme on an increasing scale from 1 to 5 (e.g. from bad to excellent) that allows transformation of attitude measures into a metric scale. The questions asked following a likert-type scale is expected to enhance reliability and validity of measurement of quality dimensions. A set of ten items were used, the responses to which can be added or averaged to produce an overall score or measurement. The underlying assumption for transformation into metric scale is that all perceived distances from one category to another in ascending order is equidistant, i.e. the distance from bad to poor, and the distance from good to excellent is equal to one.

The aspects of service quality have been further grouped under structure or readiness of facilities, interpersonal care and medical aspect of care. The structural factors included consist of availability of service providers, waiting time, cleanliness, and quality of inpatient food; interpersonal care is denoted by behaviour of doctors/service providers, attitude of staff and privacy of treatment; and medical service is represented by technical quality of care, availability of drugs and availability of medical supplies. Overall quality of care is, however, measured by the global measure of all dimensions of care included in this analysis.

VI. SAMPLE CHARACTERISTICS

Among 5,752 patients who were interviewed, about a third visited DHs, almost half utilised UHCs, over a tenth visited UHFWCs, while only 3.5 per cent availed the services of CCs (Mannan, Sohail, and Hossain 2003). Around 46 per cent of the users were males and 54 per cent were females. The majority (43.4 per cent) of the users of primary health care facilities belonged to 20-49 age group, among them the proportion of women was more than twice the proportion of men. In all other age groups proportion of males was higher than females except 15-19 age group. Among the users children under 5 years of age and elders aged 65 years and above constituted around 19 and 3 per cent respectively.

Around 60 per cent of the patients are illiterate including all under 5 children who were recorded as illiterate. Eight per cent of the patients are S.S.C or higher educated. Around 35 per cent of the clients had monthly household income of up to taka 2,000, while only 9 per cent had income above taka 7,500. In terms of occupation of household head, around 30 per cent are classified as non-agricultural

wage labour, 16 per cent as farming, 12 per cent as agricultural wage labour, 17 per cent as petty trading, 16 per cent as service and 4 per cent as business.

TABLE I
**UTILISATION OF SERVICES BY FACILITY LEVEL, TYPE
OF PATIENT AND INCOME QUINTILE**

Income quintile

Facilities		1	2	3	4	5	All
DH	Outpatient	30.8	22.0	17.1	18.7	10.5	1211
	Inpatient	42.1	21.3	14.9	11.7	10.0	732
	All	35.0	21.8	16.8	16.1	10.3	1943
UHC	Outpatient	43.5	23.3	15.1	11.0	7.1	2568
	Inpatient	42.1	24.6	16.9	9.0	7.3	354
	All	43.3	23.5	15.4	10.7	7.1	2922
UHFWC		38.6	25.0	19.4	10.9	6.1	687
CC		29.5	23.5	21.0	17.5	8.5	200
All		39.5	23.1	16.5	12.8	8.1	5752

Access to Public Health Facilities

One of the main objectives of HPSP was to expand the services so as to cater to the needs of the vulnerable sections of the society, such as women, children and poor, and improving their accessibility to services. Findings suggest enhanced access to poor and women to the government health care institutions at the district level and below. In terms of per capita income, poorest quintile alone accounted for two-fifths of all visits, while the poorest two quintiles accounted for more than three-fifths of all utilisation episodes (Table I). In contrast, the share of richest quintile is only 8 per cent. Among all the layers of health care facilities, patients at the UHC are most likely to come from the poorest quintiles, followed by UHFWC. The distribution of patients is much less skewed for those visiting CCs. The trend of higher utilisation by the poor also holds true for both inpatients and outpatients. While at the DH inpatients are significantly poorer than the outpatients, the reverse is true at the UHC. Evidence from a study shows that upazila level public health facilities are more pro-poor than the district level facilities in both outpatient and inpatient care (World Bank 2005).

TABLE II
**UTILISATION OF SERVICES BY GENDER, TYPE OF
PATIENT AND INCOME QUINTILE**

Income	Outpatient		Inpatient		Gender	
Quintile	Male	Female	Male	Female	Male	Female
1	37.2	40.2	40.2	44.3	37.9	40.8
2	22.9	23.5	24.1	20.3	23.2	23.0
3	17.9	15.8	16.2	14.8	17.5	15.7
4	13.7	12.9	11.8	9.8	13.3	12.4
5	8.3	7.6	7.7	10.8	8.2	8.1
All	100(43.5)	100 (56.5)	100 (54.7)	100 (45.3)	100 (45.6)	100 (54.4)

By gender, females tend to utilise the health care facilities more than males, and the proportion of female utilisation is higher than male only in the lowest quintile (Table II). Female utilisation is higher than that of male in outpatient care, but the reverse is true for inpatient care. However, in the lowest quintile the share of females is higher than males in both outpatient and inpatient care. With the increase in income share of males in accessing care as compared to females in general increases with the exception in the richest quintile where female utilisation of inpatient care is higher than that of male. Finally, it can be inferred that the primary health care services indicate increased accessibility of the poor as well as women.

DHs and UHCs have inpatient facilities while the lower level facilities have only outpatient facilities. Table III shows that patients have to travel longer to DHs than any other outpatient facilities to avail of the necessary health care; they travel almost twice the distance compared to traveling to UHCs. Clients receive services from UHFWCs and CCs from within a distance of around two kilometers and one kilometer respectively. Thus it appears that the establishment of CCs brought the essential primary health care services nearest to the clients.

Inpatients of DHs and UHCs usually come from far-off places than the outpatients probably because of their need for qualified care for chronic as well as acute illnesses, such as injury. Inpatient service users of DH travel more than twice the distance of inpatients of UHC. Females utilise the inpatient and outpatient services of both DHs and UHCs from slightly nearer places than males probably due to their socio-economic barriers in accessing care from far-off places.

Travel time of outpatients is around half an hour for users of both DHs and UHC, but reduces at the lower level facilities. High travel time at the upazila level and below for traveling shorter distances can be mainly attributed to slower mode of transport. As they travel longer distances, inpatients generally use quicker mode

of transport compared to outpatients. The most frequently used mode of transport used by the inpatients at the district and upazila level is rickshaw/bicycle, followed by bus/autorickshaw. Travel cost for outpatients is generally low especially at the upazila level and below, but high for inpatients visiting DHs, which depends on both distance covered and mode of transport. Waiting time is around 25 minutes for both inpatients and outpatients at DH, and drops significantly at lower level facilities. There is no significant difference in waiting time between males and females.

TABLE III
ACCESSIBILITY FACTORS

Accessibility Factors	DH		UHC		HFWC	CC
	Outpatient	Inpatient	Outpatient	Inpatient		
Distance Traveled (km)	5.4	12.2	2.9	5.5	1.8	1.0
Male	5.8	14.1	3.2	5.6	1.8	0.7
Female	5.1	9.9	2.6	5.3	1.8	1.0
Travel time (minutes)	32.3	56.1	30.6	40.9	24.3	12.4
Male	32.6	60.2	30.2	43.3	25.3	12.2
Female	32.1	51.1	31.0	38.0	23.7	12.5
Travel Cost (Taka)	11.1	72.0	3.7	27.6	1.2	0.5
Male	10.5	77.4	4.0	31.3	1.3	0.4
Female	11.7	65.4	3.5	23.2	1.2	0.6
Waiting Time (Minutes)	24.6	25.0	16.7	16.0	13.0	6.7
Male	24.1	24.9	15.7	16.3	12.1	7.9
Female	24.1	25.1	17.5	15.5	13.5	6.3
Mode of Transport						
On foot	21.1	1.2	58.7	7.9	81.7	88.0
Rickshaw/Bicycle	55.1	45.1	29.4	49.6	9.5	8.5
Bus/Auto rickshaw	20.8	41.5	7.3	19.2	7.0	0.5
Others	3.0	12.1	4.6	13.2	1.8	3.0
Choice of facility						
Vicinity to Home	12.8	5.7	20.2	8.8	35.4	68.5
Free/low cost of treatment	49.4	42.9	57.5	48.9	50.9	28.0
Quality of treatment	36.4	47.8	20.7	39.0	11.9	2.5
Low transportation Cost	0.7	0.4	0.9	0.8	1.2	0.5
Others	0.6	3.1	0.6	2.6	0.5	0.5

Access to a health facility relates to consumer's choice regarding nearness to the facility, cost of treatment, and quality of treatment. Free/low cost of treatment

is considered as the principal motivating force behind utilisation of public health facilities, especially for outpatients. Consideration of quality of treatment outweighs consideration of cost of treatment among users of inpatients at DHs, while the question of quality of treatment assumes added significance to inpatients at the UHCs. Availability of services near to home is an important consideration for utilisation, especially among the outpatients; it is the overriding reason for those who utilise the services from CCs.

VII. QUALITY RATINGS OF SERVICE DIMENSIONS

In this study, patients are considered satisfied if they have rated the quality of a particular service dimension as either excellent or good, and others who have rated it as either average, poor or bad are considered dissatisfied. The fact that the patients have chosen a particular health facility implies some degree of preference for some specific aspects of care of that health care provider. The findings suggest that overall less than a half (46.3 per cent) of the service users are satisfied with all the ten service dimensions, while the majority appears to be dissatisfied. Using panel data evidence suggests that reported use of government services by households declined and the proportion rating the services as "good" also showed a downward trend over time (Cockcroft *et al.* 2007). Patient satisfaction can be termed as a relative measure between expectations and perceived fulfillment (Mahapatra 2003). It can thus be measured as the average score received, and indicates to the gap between expectation and perceived satisfaction, the maximum score being 5 and the minimum is one. In terms of quality ranking on the basis of score, the overall score is 3.34, which implies that the overall quality is good though much below the expected maximum. The highest mean satisfaction score is received by the service dimension behaviour of doctors/service providers (3.83) and the lowest is for the availability of prescribed drugs (2.72) (Table IV).

In structural aspects of care, availability of doctors/service providers is a critical aspect of care since clients often complain about non-availability due to shortage or absenteeism of doctors/service providers in primary health care facilities. It can be seen that only about half of the service users expressed satisfaction with this aspect of care, leaving other half of them dissatisfied. The average score of this item is 3.4, slightly higher than the overall score.

Long waiting time at the health centre is a significant cause for dissatisfaction among the service users. Non-availability of requisite number of service providers at health centres often coupled with short working hours for seeing patients are responsible for long waiting time in accessing services. Among structural factors, concern with waiting time is even unsatisfactory; around three-fifths of service users are dissatisfied, and its relative measure is 3.28.

TABLE IV
QUALITY RATINGS FOR DIFFERENT DIMENSIONS OF CARE

Service Dimensions	Rating of Services						N
	Excellent	Good	Average	Poor	Bad	Average Score	
A. Readiness of facilities							
Availability of service providers	0.7	49.8	39.0	9.9	0.7	3.40	5637
Waiting time	0.6	40.4	46.7	11.7	0.6	3.28	5595
Cleanliness	2.1	41.3	48.3	6.9	1.4	3.36	5699
Quality of inpatient food	-	18.9	46.8	30.5	3.9	2.81	1018
B. Interpersonal Care							
Behaviour of Doctors /Service Providers	6.0	74.2	16.9	2.7	0.1	3.81	5752
Attitudes of staff	2.5	63.3	29.1	4.5	0.5	3.63	5606
Privacy of treatment	2.6	38.9	52.6	5.7	0.2	3.38	4440
C. Medical Service							
Technical quality of Care	1.5	49.5	43.4	4.9	0.7	3.46	5588
Availability of drugs	0.4	17.4	44.2	30.2	7.7	2.72	5673
Availability of medical supplies	0.3	17.7	50.9	23.3	7.8	2.79	2713

Cleanliness covers cleanliness of various items relevant for outpatients and inpatients. For outpatients, the relevant items are cleanliness of waiting room, consultation room maintenance and and toilets, while for inpatients the relevant items are cleanliness of bed, linen, floor and toilets. In point of fact, public health facilities at the district and upazila level hardly have any reception or waiting room facilities. The common scenario of public health facilities is dirty environment, bad smell, and lack of overall cleanliness and maintenance. Evidence shows that only around two-fifths of patients expressed satisfaction with cleanliness while the majority rated it as average or worse. Food served to inpatients is likely to be of low quality, as they seem to be highly dissatisfied with the quality of food. Around four-fifths of the inpatients are dissatisfied with the quality of food, and its relative score is also very low (2.81).

In the context of primary health care, patients usually come from rural background, are poor and/or illiterate who expect politeness, dignity and responsiveness from the providers. In terms of interpersonal care, patients consider the behaviour of doctors/service providers as highly satisfactory, and around three-quarter of clients expressed satisfaction with this dimension of care, and the relative score of this aspect of care is also the highest (3.81). Staff attitude is also an important element of interpersonal care in facilitating consultation with

appropriate service providers, access to information and services and getting drugs and other supplies. The degree of satisfaction with the behaviour of staff is also found to be high evident in two-thirds of clients being satisfied with this aspect of care. The reported high levels of satisfaction with interpersonal aspects of care from service providers as well as of office staff implies that the service providers including office staff are treating patients politely and respectfully. However, expressed high degree of satisfaction may be either due to fear of unfavourable treatment in the future (Ley 1972) or due to gratitude bias (Overtreit 1992). It may also be due to research methodology adopted as findings from focus group discussion suggest that the poor received discriminatory behaviour at public health facilities (CIET 2000).

Violation of privacy of treatment is considered a violation of human rights of patients. Though privacy is a fundamental ethic in health care, it assumes greater significance to the young and female patients in the cultural context of Bangladesh. Young and female patients are in need to consult with the physicians their health concerns including contraception, pregnancy, abortion and STD maintaining privacy and confidentiality. In government health centres it is observed that more than one patient is usually present in the consultation room violating the privacy of consultation process. Additionally, for female outpatients there is usually no purda system during consultation. Patients tend to be largely unhappy since around three-fifths of the service users expressed dissatisfaction with this aspect of care.

Three domains of care have been included under medical service including technical quality of care, availability of drugs and availability of medical supplies. Clients generally hold high opinions about technical quality of care in government primary health care centres because these centres are staffed with qualified doctors, nurses and other paramedics, usually scarcely available in semi-urban or rural areas where most of these health centres are located. As expected, more than half of the service users have expressed their confidence in the technical competence of the providers, and the relative score is also high (3.46).

In places where easy transportation facilities are available, doctors from government health centres and private practitioners working in the nearest urban clinics engage in private practice in rural areas usually operating through local pharmacies during evening hours or during holidays. Poor usually cannot afford the high consultation fees and drug costs required for treatment from these qualified providers and resort to health care from the Alternative Private Practitioners[5] (APPs). Those who seek health care from the government health

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[5] Alternative private practitioners include partially qualified or unqualified Allopathic and non-Allopathic practitioners.

centres are largely attracted by the free consultation as well as free entitlement to drugs despite inconvenient working hours at government facilities and usually longer travel time. However, mismanagement coupled with low resource allocation is responsible for poor distribution of medicine and other medical supplies to the clients. Clients' opinions regarding availability of prescribed drugs and of medical supplies are very poor; more than four-fifths of them are found to be dissatisfied with both availability of prescribed drugs and availability of medical supplies. In reality, evidence shows a large majority of patients have received medicine from health centres, but they have probably received partial or inappropriate drug.

From the above discussion, three groups of service dimensions may be discerned with differing perceptions of quality and satisfaction. Patients express high degree of satisfaction with the behaviour of doctors/service providers as well as with the behaviour of staff. They are moderately satisfied with such aspects of care as availability of service providers and technical quality of care. Dissatisfaction with service dimensions is reported in case of waiting time, cleanliness, and privacy of treatment. Serious concerns, however, surfaced about the quality of inpatient food, availability of prescribed drugs and availability of medical supplies.

Services Received by Patients

Table V showing the actual amount of services received may clarify some of the reasons for patient dissatisfaction. In outpatient care 30 per cent of the clients received physical examination and 57 per cent received some advice from doctors/service providers. That a major portion of the outdoor patients did not receive any physical examination rather received only some advice is a reflection of unprofessional technical aspect of care.

With regard to the services of the supporting staff such as nurses, medical technicians, it is found that only 7 per cent of the clients received pathological tests and x-rays and another 3 per cent received immunisation. This reflects on the inadequacy of medical equipments and technicians in the primary health care centres often requiring patients to undertake diagnostic tests from private clinics. In many cases, patients might have even opted to seek health care from private sources because of lack of adequate diagnostic facilities. A large proportion of the clients received drugs (82 per cent) from the facilities, however, most of them are likely to have received only partial drugs, and occasionally inappropriate drugs those are usually available from the facilities.

TABLE V
SERVICES RECEIVED FROM THE FACILITIES BY PATIENT CATEGORY

Services Received	Patient Category				Total	
	Outpatient		Inpatient		%	No.
	%	No.	%	No.		
Physical Examination	29.6	1380	45.5	494	32.6	1874
Some advice	56.6	2640	56.3	611	56.5	3251
Provide Contraceptives	3.1	144	0.1	1	2.5	145
Legation/Vasectomy	0.0	1	-	-	0.0	1
M.R.	0.0	2	0.2	2	0.1	4
Medicine	83.8	3911	74.2	806	82.0	4717
Blood test	1.1	49	13.0	141	3.3	190
X-ray	0.7	32	13.0	141	3.0	173
Urine/Stool test	0.3	15	4.4	48	1.1	63
Immunisation	3.0	139	2.0	22	2.8	161
Injury requiring Bandage/Plaster	0.8	37	8.5	92	2.2	129
Major Operation	0.1	3*	4.7	51	0.9	54
Minor Operation	0.0	2	26.2	284	5.0	286
Nothing	0.4	18	-	-	0.3	18
Others	2.0	95	2.2	24	2.1	119
All	-	4666	-	1086	-	5752

* Patients who received services as inpatients, but later visited as outpatients for further checkup/advice.

**Multiple responses.

Factors Affecting Quality Dimensions

Overall, perceived quality of care has been found to be low excepting interpersonal aspects of care, in addition to low variation of different dimensions of care. Age is an important determinant of perceived satisfaction with health care. As older people are believed to uphold more modest expectations regarding health care, they tend to be more satisfied than the younger people (Table VI). Perceived quality of care and satisfaction increase with age for the service dimensions availability of service providers, waiting time, behaviour of doctors/service providers as well as attitude of staff, though the variation by age is low. For other items of quality of care, positive association with age is either weak or mixed.

TABLE VI
**EXCELLENT OR GOOD RATING FOR THE QUALITY ITEMS
BY AGE OF CLIENTS**

Service Dimensions	Age						
	0-4	5-14	15-24	25-49	50-64	65+	All
Availability of service provider	47.2	47.7	51.8	51.3	53.5	53.4	50.5
Waiting time	36.1	40.4	42.5	41.7	41.8	49.6	41.0
Cleanliness	42.1	40.7	41.9	45.7	44.0	44.6	43.4
Quality of food	18.3	19.1	14.3	18.0	25.9	17.6	18.9
Behaviour of doc/SP	78.7	80.6	81.0	80.3	78.6	86.1	80.3
Attitude of Staff	63.1	64.7	66.5	65.2	70.6	71.7	65.9
Privacy of treatment	41.5	39.8	42.9	42.6	38.2	39.7	41.5
Technical quality	50.2	50.7	50.0	51.7	52.4	51.9	51.1
Availability of drugs	16.9	18.7	19.5	17.4	16.4	20.2	17.9
Availability of MS	17.1	19.7	18.1	17.8	16.3	21.6	18.0

TABLE VII
EXCELLENT OR GOOD RATING BY GENDER AND TYPE OF PATIENT

Service Dimensions	Outpatient		Inpatient		Patient type	
	Male	Female	Male	Female	Outpatient	Inpatient
Availability of Service Provider	50.2	51.4	53.3	48.8	50.3	51.2
Waiting time	41.5	40.2	44.7	39.2	40.8	42.2
Cleanliness	43.8	48.0	35.8	26.7	46.2	31.7
Quality of food			20.0	17.5	--	18.9
Attitude of doc/SP	81.9	80.9	77.8	73.4	81.3	75.8
Attitude of Staff	62.2	67.5	65.8	56.3	66.9	61.5
Privacy of treatment	41.6	43.3	37.7	36.1	42.7	36.8
Technical Quality	52.9	50.8	55.7	39.8	53.5	49.0
Availability of drugs	18.9	19.9	9.4	13.1	16.7	18.8
Availability of MS	15.5	15.4	18.0	28.0	16.5	19.1

Quality dimensions are expected to vary by gender and patient type. Table VII shows that among outpatients satisfaction with various service dimensions offered by the primary health care facilities do not vary widely between males and females. Females are relatively happier than males with such aspects as cleanliness and attitude of staff in outpatient care, while males indicate significantly higher degree of satisfaction in inpatient care than females with almost all dimensions of

care except availability of drugs and supplies indicating significant male advantage in accessing quality inpatient services.

When looking at variation in service quality by type of patient, significant variation in quality of care is observed between inpatients and outpatients. The opinions on most of the sub-systems of care except a few are rated more favourably by the outpatients than the inpatients. The outdoor patients expressed greater satisfaction with such aspects ranging from interpersonal aspects of care, cleanliness and technical aspect of care, while indoor patients rated slightly more favourably the availability of drugs and supplies. Outpatients visit the health centres for relatively less complicated diseases, stay in the compound for limited amount of time, have limited interaction with service providers and thus they are expected to hold better opinions about the services in general. On the other hand, the indoor patients visiting the health centres mostly with chronic and complicated diseases, and staying there for longer period consider the quality of most of the service dimensions as relatively inferior.

In order to assess service quality, it is critical to assess relative quality of service dimensions among different layers of primary health care facilities. Patients' perception of quality and satisfaction with availability of service providers is almost similar for all the three layers of facilities, i.e. DHs, UHCs and UHFWCs, but significantly lower for CCs (Table VIII). This is probably because during the study period, CCs used to remain closed except only on immunisation days and as such availability of service providers was very limited. With regard to waiting time, the degree of satisfaction is similar for UHCs and UHFWCs, but significantly lower for DHs and CCs. It is widely recgnised that while DHs are overutilised, the upazila and lower level facilities are underutilised. Thus the perception of overcrowding at the DHs and non-availability of service providers at the CCs may have contributed to lower level of satisfaction at these facilities, though in reality waiting time was found to be the lowest at the CCs among all types of facilities. In addition, within DHs, inpatients are relatively more satisfied with waiting time than outpatients and the reverse is true for UHCs.

Satisfaction with cleanliness shows an upward rise as one moves from higher to lower level facilities. A part of the explanation lies in the magnitude of patient flow, which declines from higher to lower level facilities. Inpatients are less satisfied with cleanliness than outpatients at both DH and UHC. Mismanagement and lack of accountability are largely responsible for inefficient waste disposal system, cleanliness of facilities, cleanliness of linen and toilets at DHs and UHCs. Although patients express serious concern about the quality of food, the degree of satisfaction with the quality of food served to inpatients is significantly better at the UHCs than at DHs, partly because patients seeking health care at the DHs are

likely to belong to higher socio-economic status than the patients at UHCs. For similar reasons, patients seem to be relatively more satisfied with interpersonal aspect of care at lower level facilities than at the DHs where expectations from providers are relatively high. Outpatients have been found to receive better interpersonal care than the inpatients at both DHs and UHCs.

TABLE VIII

EXCELLENT OR GOOD RATING BY TYPE OF FACILITIES AND PATIENT TYPE

Service Dimensions	DH		UHC		UHFWC	CC
	Out patient	In patient	Out patient	In patient	Out patient	Out patient
Availability of SP	49.6	51.6	51.4	50.4	53.2	30.5
Waiting time	33.2	41.9	44.7	42.7	42.3	31.8
Cleanliness	41.3	30.1	45.3	34.9	54.6	58.8
Quality of food		12.8		31.3		
Behaviour of doctor/SP	78.4	74.3	82.8	78.8	82.7	74.5
Attitude of staff	60.7	60.2	68.3	64.1	71.2	76.7
Privacy of treatment	43.5	34.5	41.7	41.6	44.0	45.6
Technical quality	48.3	47.9	53.2	49.6	56.6	36.4
Availability of drugs	15.8	9.2	20.5	14.8	24.3	12.2
Availability of MS	24.3	24.2	13.2	19.7	7.4	9.1

Quite interesting finding is observed regarding technical quality of care where patients rated more favourably technical competence at the UHCs and UHFWCs compared to the DHs. As expected, professional competence of providers is heavily influenced by patients' perceptions of more responsive interpersonal aspects of care, which is found to be relatively high in the case of lower layer facilities. CCs staffed by only Family Welfare Assistants (FWAs) and Health Assistants (HAs) are ranked lowest in this respect. Although patient satisfaction with the availability of drugs and supplies is very low, availability of prescribed drugs to patients tends to be relatively better at the lower level facilities while medical supplies are more easily accessible at higher level facilities. A part of the explanation lies in the fact that patients generally visit UHFWC only when drugs are available, which is generally known in the locality beforehand. However, CCs are an exception in this regard as they used to receive irregular supply of drugs. In addition, inpatients at both DH and UHC are significantly less satisfied with the

availability of drugs than outpatients probably because they often are in need of relatively costly drugs.

TABLE IX

EXCELLENT OR GOOD RATING FOR THE QUALITY DIMENSIONS BY DISTRICTS AND PATIENT TYPE

Service Dimensions		Laxmipur	Netrokona	Bogra	Moulavibazar	Jhalakati	Magura
Availability of Service Provider	Outpatient	27.9	44.6	57.8	61.0	57.3	39.6
	Inpatient	37.0	56.0	56.1	48.4	66.1	38.6
Waiting time	Outpatient	25.6	41.0	53.4	45.5	45.8	22.4
	Inpatient	27.3	56.6	45.9	40.5	56.0	28.1
Cleanliness	Outpatient	25.1	33.1	52.8	46.1	52.1	45.7
	Inpatient	27.4	11.9	34.5	23.3	41.1	39.1
Quality of food	Inpatient	21.8	10.1	23.6	15.0	21.6	14.6
Behaviour of Doctor/ Service provider	Outpatient	70.3	80.0	82.5	84.5	85.9	80.8
	Inpatient	70.4	84.3	77.7	70.5	75.9	73.7
Attitude of staff	Outpatient	47.6	65.9	75.7	60.0	83.6	62.1
	Inpatient	48.8	66.7	72.6	34.1	71.3	55.9
Privacy of treatment	Outpatient	19.9	49.4	47.0	31.6	59.1	32.8
	Inpatient	24.0	46.3	38.0	20.4	62.2	25.7
Technical quality of care	Outpatient	27.6	51.1	60.9	71.7	48.2	37.5
	Inpatient	34.2	42.4	53.2	56.7	55.0	39.9
Availability of drugs	Outpatient	13.8	17.5	19.4	24.5	20.9	17.9
	Inpatient	5.7	5.0	10.3	12.5	22.1	5.6
Availability of medical supplies	Outpatient	9.8	6.7	22.3	5.0	21.4	23.1
	Inpatient	6.5	11.8	31.2	19.7	19.3	21.3

Table IX shows large variation in service quality among health care facilities in different districts by various dimensions of care. In outpatient care, service users are relatively more satisfied with the availability of doctors/service providers in Moulavibazar, Bogra and Jhalakati districts than in other districts; while in inpatient care they are relatively better off with this aspect of care in the facilities located at Jhalakati, Bogra and Netrokona districts. User satisfaction also varies widely with respect to waiting time at the health centres; users are relatively more satisfied at Bogra, Moulavibazar and Jhalakati districts in outpatient care and Netrokona and Jhalakati districts in inpatient care. In outpatient care, health care

institutions are perceived to be cleaner in Bogra and Jhalakati districts but comparatively much less clean in Laxmipur district. The plight of inpatient cleanliness is even unsatisfactory in most of the districts, the worse affected being the Netrokona district. The situation with the provision of inpatient food is deplorable according to patients' opinion with little variation across districts.

Patients tend to receive amicable behaviour from doctors/service providers at health centres in almost all the regions in the country. However, attitude of staff appears to be somewhat less friendly in some areas such as Laxmipur and Moulavibazar compared to other areas. Service users in general express concern about privacy of treatment and more intensely so at facilities located in traditionally conservative districts such as Laxmipur and Moulavibazar. Clients' opinion about the clinical aspects of care is relatively high at facilities located in Moulavibazar and Bogra districts in relation to other districts. In general, availability of prescribed drugs and supplies is a cause for concern at government health centres across all the districts.

Overall, findings suggest that health centres located in Jhalakati, Moulavibazar and Bogra districts under Barishal, Sylhet and Rajshahi divisions respectively are comparatively better off in specific aspects of care, while those located in Laxmipur, Netrokona and Magura under Chittagong, Dhaka and Khulna divisions respectively are lagging behind. One study shows that Jhalakati is an overachiever with respect to human poverty index (HPI) including, among others, access to health services, education and sanitation (Shahabuddin 2004).

Relative Importance of Service Dimensions

The service users were asked in their opinions, which were the two most important service dimensions, in order of merit, from the list of ten essential quality sub-systems. Service users are most likely to view behaviour of doctors/service providers as the most important aspect of service demanded by them from among the ten dimensions of care, followed by availability of prescribed drugs and availability of service providers (Table X). This highlights the importance of responsive behaviour of service providers to the patients despite patients' reported high degree of satisfaction with the behaviour of service providers.

With regard to the choice of second most important dimension of service, both inpatients and outpatients tend to prefer availability of prescribed drugs in the health centres as their second choice of service dimension. Technical quality of care and availability of service providers also figure prominently as the second most important dimensions of care the patients would prefer.

TABLE X

RELATIVE IMPORTANCE OF SERVICE DIMENSIONS BY PATIENT CATEGORY

Service Dimensions	First choice		Second choice	
	Outpatient	Inpatient	Outpatient	Inpatient
Availability of service provider	17.3	14.5	17.9	13.0
Waiting time	4.6	2.3	4.0	2.9
Cleanliness	4.8	4.4	2.3	2.5
Quality of food	-	4.9	-	6.8
Behaviour of doctors/service provider	38.8	41.1	3.7	3.8
Attitudes of office staff	4.4	5.7	7.1	6.2
Privacy of Treatment	1.0	1.7	1.6	1.3
Technical quality of care	6.8	6.1	26.3	27.6
Availability of drugs	21.7	17.1	35.4	29.3
Availability of medical supplies	0.5	2.2	1.6	6.7
All	4657	1085	4652	1081

Global Quality of Care and Its Determinants

So far quality dimensions and their variations were analysed separately for different dimensions of care by various socio-economic and facility based factors. Global quality of care, however, embodies all aspects of care included in the analysis, and the factors influencing global quality have been analysed in the following. Multiple Classification Analysis (MCA), a technique of analysis of variance, is adopted to analyse the effects of a set of continuous and categorical variables affecting global quality of care. In MCA the predictor variables can be as weak as in nominal scale of measurement, and non-linear relationship between predictor and dependent variable may exist.

The dependent variable in this analysis is quality of care estimated from the valid responses of all the dimensions of care, and non-response and invalid responses have been omitted from the analysis. Separate analysis has been performed for inpatients and outpatients since the type of service and the quality of care they need differ widely. For inpatients, all the ten structural, interpersonal and medical aspects of care are included in the global quality of care, while for outpatients, quality rating on food has been excluded since it is relevant only for inpatients.

Age, distance to the facilities and per capita income are expected to influence perceived quality of health care and are included in the analysis as covariates. Education is not included as a predictor, as child patients aged 0-4 were recorded as illiterate. The categorical variables included are gender, type of service, type of facility, treatment cost, and geography.

Factors Affecting Outpatient Quality of Care

The MCA shows that for outpatients all the categorical variables except gender have been found to be significant and among the covariates age and distance turn out to be significant in influencing global quality of outpatient care. Age is significantly positively associated with outpatient care, implying that patient satisfaction increases with age, while distance to the facility affects negatively perceived quality of outpatient care.

Patients' perception of quality of care differs significantly by type of facility. Service users tend to be relatively more satisfied with the services of UHC and UHFWC than the services of DH, and they are likely to be least satisfied with the services of CC. It is known that the CCs were in complete disarray and were about to be shut down during the survey period with a shift in policy to make UHFWC as the focal point for essential services delivery for the rural population. The type of services provided also significantly determines global quality of outpatient care. Service users are found to appreciate less favourably the quality of child health care and limited curative care including non-ESP services than the quality of family planning, reproductive health and communicable disease control services.

Greater patient satisfaction is expected to be associated with lower cost of treatment. The results suggest a significant negative association, though non-linear in nature, between medical expenditure and outpatient satisfaction. Patients are relatively more satisfied with out-of-pocket expenditure of taka 50 and lower, but once the expenditure rises above taka 50 the degree of satisfaction drops. Theoretically patients are expected to receive health care free of cost except transportation cost, which is very low. Therefore, it indicates to the fact that patient satisfaction will not be adversely affected if a user fee of taka 5-10 is realised from patients on the basis of ability to pay along with improvement in quality of care.

There appears to be large variation in global quality of outpatient care by geography. In this context, service users in Jhalakati district indicate relatively higher degree of satisfaction followed by service users in Bogra and Moulavibazar districts compared to service users in Magura and Netrokona districts who are relatively less satisfied and those in Laxmipur are least satisfied. Regional variation in quality of care can be largely explained by variation in quality ratings

among different dimensions of care since regional variation increases only slightly after adjustment for other intervening variables.

TABLE XI
**MCA OF THE FACTORS AFFECTING GLOBAL QUALITY
OF CARE: OUTPATIENT**

Factors	Cases	Unadjusted deviations	Eta	Adjusted deviations	Beta	Level of significance
Gender						
Male	2031	.00		.01		.85
Female	2635	.00	.00	-.01	.02	
Type of facility						
DH	1211	-.06		-.04		.00
UHC	2568	.03		.03		
UHFWC	687	.04		.02		
CC	200	-.13	.12	-.19	.13	
Type of service						
FP	181	.10		.12		.00
RH	118	.07		.05		
CH	945	-.03		-.01		
CDC	108	.07		.07		
LCC+Non-ESP	3314	.00	.07	-.01	.07	
Cost of treatment (taka)						
O	2428	.01		.01		.00
1 – 10	964	.00		.01		
11 – 20	395	.01		.01		
21 – 50	318	.02		.02		
51 +	561	-.08	.08	-.09	.09	
District						
Laxmipur	613	-.21		-.21		.00
Netrokona	526	-.09		-.10		
Bogra	1127	.08		.08		
Maulavibazar	856	.05		.05		
Jhalakati	816	.11		.12		
Magura	728	-.07	.27	-.07	.28	

No. of cases=4,666
Grand mean= 3.38
Multiple R^2 = .104

Factors Affecting Inpatient Care

In inpatient care, none of the covariates age, distance and per capita income has significant bearing on global quality of care. For obvious reasons, inpatients

seek health care for chronic and complicated diseases and often being referred by lower level facilities, and hence distance to the health centre shows little bearing on their degree of satisfaction. All the categorical variables except type of service have significant effects on inpatient quality of care.

TABLE XII
**MCA OF THE FACTORS AFFECTING GLOBAL QUALITY
OF CARE: INPATIENT**

Factors	Cases	Unadjusted deviations	Eta	Adjusted deviations	Beta	Level of significance
Gender						
Male	594	.03		.03		.02
Female	492	-.04	.08	-.03	.07	
Type of facility						
DH	732	-.03		-.04		.00
UHC	354	.07	.12	.08	.13	
Type of service						
RH	105	-.04		.00		.42
CH	130	-.06		-.04		
CDC	39	-.04		-.07		
LCC+Non-ESP	812	.02	.07	.01	.05	
Cost of treatment (taka)						
< 500	410	.07		.05		.00
500 – 999	233	.00		.01		
1000 – 1999	194	-.09		-.08		
2000 – 2999	81	-.02		.00		
3000 +	168	-.06	.14	-.05	.13	
District						
Laxmipur	125	-.14		-.18		.00
Netrokona	102	-.13		-.14		
Bogra	439	.08		.10		
Moulavibazar	129	-.02		-.02		
Jhalakati	112	.18		.13		
Magura	179	-.11		-.10		
			.26		.27	

No. of cases=1086
Grand Mean= 3.21
Multiple R^2=. 114

With respect to gender variation, female inpatients express significantly lesser degree of satisfaction than male inpatients. Like outpatient care, patients at the UHC are found to be relatively more satisfied with inpatient care in terms of structure and process aspects of care than the patients availing services at DH. Inpatient satisfaction does not appear to vary significantly by the consumption of different types of services offered.

The findings suggest significant negative association between inpatient treatment cost and user satisfaction, the relationship being non-linear in nature. Inpatients are relatively more satisfied if the cost of treatment is below taka five hundred and the degree of satisfaction declines with increasing cost of treatment. Inpatient care for chronic and acute illnesses often requires large sums of out-of-pocket expenditure, especially for purchase of medicine, diagnostic tests, food and transportation. Since the service users of primary health care facilities can hardly afford to incur large expenses are likely to be less satisfied.

Like outpatient care, regional variation emerges as a prominent feature in inpatient quality of care. Indeed, inpatient and outpatient quality of care follows almost the similar pattern; those districts with superior outpatient quality of care also indicate better inpatient quality of care. Thus similar to outpatient quality of care, primary health care facilities of Jhalakati and Bogra districts are comparatively better off in terms of global inpatient quality of care, followed by the facilities located at Moulavibazar, Magura, Netrokona and Laxmipur districts. Regional variation, however, increases only slightly after adjustment for the covariates and other categorical variables.

VIII. DISCUSSION AND CONCLUSION

Improving accessibility and quality of primary health care are priority concerns in the health sector reforms initiated in Bangladesh since 1998. It appears that significant progress has been achieved in accessibility of poor and women to government primary health care. Establishment and operation of a wide network of health care facilities have brought the health care facilities and services nearer to the clients, but lack of easy transportation facilities requiring longer travel time still poses as constraint in accessing care. A large number of CCs established at the community/ward level soon became non-functional due to lack of adequate community participation and irregular supply of drugs. In order to attain health for all and reaching the essential services closer to the clients, CCs need to be made functional under the public sector or through public-private partnership, especially to meet the needs of the poor and the underserved who otherwise seek care from the APPs.

With regard to structural factors, patients are moderately satisfied with the availability of service providers, but dissatisfied with such aspects as waiting time, cleanliness and quality of inpatient food. Shortage and absenteeism of doctors, nurses and other service providers are perennial problems in the health sector, which is again to a great extent responsible for long waiting time at the health centres. In this context, proper utilisation of staff time of the existing service providers given their other pressing administrative, supervisory, training, field level and other duties have also to be taken account of so that they can devote enough time to patient care leading to their increased productivity. Although government has recently recruited a large number of doctors, nurses and other professionals in the public sector, it is yet to fill in all the vacant posts in the rural health centres. One study reports that the average number of vacancies in rural health centres is 26 per cent and absentee rate of doctors is as high as 40 per cent (Chaudhury *et al.* 2003). It may be mentioned that in order to attract and retain doctors in rural areas, who posses high technical skills, providers' rights need to be emphasised in the context of current social, cultural and economic perspective.

Patient dissatisfaction with cleanliness implies that patients want cleaner environment including cleanliness of waiting area, consultation room, beds, linen and toilets. In spite of Government's recent increased allocation for hospital meal, quality of inpatient food might not have improved because of recent spike in food prices. Patients express concern about privacy of treatment because too often multiple numbers of patients are present in the consultation room as large number of patients queue in front of the consultation room in the face of short consultation hours and limited availability of doctors. The shortages of drugs and supplies can be considered an overriding reason for low utilisation of public health services. One study draws attention to the fact that there seems to be higher levels of supply to the facilities than to the patients, which meet only around half of their needs (Normand *et al.* 2003). The study also identified several drawbacks in the current procurement system under HPSP to meet the requirements of ESP including poor planning of procurement and allocation leading to delivery of inappropriate goods, a mismatch between demand and supply, and slow and complicated procurement and delivery processes. Staff absenteeism and lack of transparency in procurement and distribution of drugs have been identified, among others, as significant fiduciary risks in the health sector (World Bank 2007).

With regard to global outpatient quality of care, age is significantly positively associated with patient satisfaction, implying that the young patients require more attention, for example, with regard to privacy and confidentiality of their treatment. Patients are likely to be more satisfied if the service centres are situated nearby such as CCs. UHC on many counts is more preferred to the clients than the DH,

while CC fared worst. Service users are comparatively better off with the services of family planning, reproductive health and communicable disease control than other kind of ESP services like child health and limited curative care including non-ESP services. As expected, there is a negative association between cost of treatment and patient satisfaction.

In inpatient care, males appear to be significantly more satisfied than females, reflecting male advantages in receiving quality inpatient care. Like outpatient care, inpatients tend to be more satisfied by the services of UHC than the services of DH. Overall, there is a negative association between inpatient treatment cost and patient satisfaction though the relationship appears to be non-linear in nature. Striking differentiation in inpatient and outpatient quality of care is reported by geography, which is almost similar in nature with Jhalakati and Bogra districts ranked ahead of other districts.

Improving quality of care at the government health centres is intimately liked with increasing government expenditure on health care. Public expenditure on health accounts for less than one per cent of GDP, while it is 3.4 per cent of GDP in Sri Lanka. In addition, most of it is spent on salaries, and little is spent on improvement of physical infrastructure, maintenance of facilities and procurement of drugs and supplies. Along with increase in public expenditure on health, it is also critical to improve governance in the health sector to reduce system loss and strengthen accountability. Insufficient budgetary allocation coupled with poor planning and distribution is leading causes of shortage of drugs, equipment and medical supplies. If patients do not receive the appropriate services after traveling long distances, it creates disincentive for them for further visit to health centres.

Unhindered growth of private medical care has resulted in overuse of medical care in the form of irrational use of diagnostic tests and drugs leading to escalation of medical cost. As large majority of the poor resort to private medical care, this has led to marginalisation of the poor and often denial of their health care as they fail to meet the increasing health expenditure. On the other hand, in the public sector misgovernance and lack of accountability have created hindrances in the delivery of basic health services to the poor and vulnerable, who face the consequences of paying unofficial fees, inadequate and inappropriate supply of drugs and other essential supplies, and unprofessional behaviour from the doctors/service providers. However, from a right-based approach government should bear the responsibility of delivering basic health care to all its citizens, which can be attained through improving governance and participation of all stakeholders in the service delivery process.

Recent decentralisation efforts in the health sector has yielded an opportunity for the participation of the community in the planning, implementation, monitoring and management of health care institutions that contributed to raising awareness, fostering linkages between providers and users, improving monitoring of availability and quality of services and promoting transparency and accountability (CPD 2003). However, community participation has not yet been fully institutionalised with clearly defined delineation of authority and power. Recent evidence suggests that community participation in the case of government community clinics failed to achieve the desired results, while in the case of non-government clinics it led to increased access to health services (Mahmud 2003). The study highlights that the lingering problems with participation were that community group members were not selected in a transparent or participatory manner, no real devolution of financial or policymaking authority had taken place, and the absence of clearly defined rules for deliberation and negotiation resulted in influencing decision-making by the more powerful members of the community. In point of fact, decentralisation and community participation have both pros and cons, it often suffers from the same kind of malaise, as does centralisation. Furthermore, decentralisation did not proceed in a phased manner with appropriate policy guidelines and capacity building and functions to be devolved were not clearly specified. In the Indian State of Kerala, comprehensive decentralisation of the health sector involving local government through the constitutional amendments of 1992 have resulted in increased outpatient visits and greater availability of medical supplies (Franke 2002). The Government is committed to devolving responsibility to local government for the delivery of certain health services. Therefore, designing appropriate participatory mechanism involving local government in the oversight and decision-making process would create an enabling environment for improved quality and coverage in the health sector.

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