

Research Article

The Need for Regulatory Reform to Improve Rural People's Access to Healthcare: Views of Administrators of the Public-private Mixed Health System of Bangladesh

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What is known about this topic?

This paper, to the best of our knowledge, is the first approach involving public and private health administrators to explore the needs for health system reform in Bangladesh aiming to improve rural people's equitable access to healthcare services.

Highlights of this paper:

- Stringent bureaucracy obstructs efficient use of healthcare resources in Bangladesh,
- Inefficient management of scarce resources hinders rural people's access to healthcare,
- Ineffective control on the growing private health market impedes market failure,
- Strategic decentralization of managerial authority and reinforcement-based regulatory reforms are high priorities of improving efficiency in healthcare as well as reducing potential risk of health catastrophe.

ABSTRACT

Nearly 35% out of approximately 108 million rural population of Bangladesh live below the poverty level. Resource shortages and limited access to the public healthcare facilities are common in rural areas, accompanied by high out-of-pocket payments and a nominally controlled rapidly growing private market. This study aims to describe public and private healthcare services and to investigate public health administrators' and private facility owners' potential explanations of their roles and limitations to ensure rural people's healthcare needs. An exploratory questionnaire and audit study was conducted in three remote Gaibandha, Naogaon and Joypurhat districts of Bangladesh. 22 public health administrators and 20 private facility owners were the respondents. Audit data on healthcare structure, availability and utilization were collected from the public and private facilities' records in 2012. Inefficient utilization of available resources in the centrally regulated public health system was found as an obvious problem. This was associated with wide gaps in power between the central and local authorities, and disparities between supply and demand

with consequent wastage and misuse of scarce resources. In the private sector, the effectiveness of regulation of cost and quality is sub-optimal. The licensing and accreditation system is outdated; hence, ineffective. Local authorities' compliance to the stringent central bureaucracy and their satisfaction seem mutually exclusive. Regulatory reform is essential to ensure the rural population's health and economic protection in healthcare. Thus, optimally utilizing the existing primary health care resources is a high priority. A potential market failure could be prevented and controlled by amending the licensing and accreditation rules involving multisectoral public-private mixed regulatory actors. A 'deconcentration' type of regulatory reform with capacity building of the local authority and implementation of reward and sanction-based policy seems a promising strategy to improve the rural population's health and economic well-being in Bangladesh.

Keywords: Health system reform; Rural; Public-private mix; Market failure; Decentralization

Introduction

The ultimate goal of the healthcare system is to meet the health

needs of the population and fairness of financial contributions (WHO, 2000). The extent to which the goals of the healthcare

system are achieved indicates the effectiveness of healthcare regulation (Nunes *et al.*, 2011). However, achieving those goals has become an ever more complex social, economic and political issue for many countries including Bangladesh. Privatization, marketization and involvement of diverse players in healthcare are global developments with the concurrent evolution of the free-market economy. These developments are closely linked to growth of regulation in the healthcare sector (Walshe, 2002; Beaz-Camargo and Jacobs, 2011). The level of service quality, cost control and productivity achieved with given resources in healthcare are the key indicators of regulatory efficiency and effectiveness (Witter, 2000, p.5-6). Thus, healthcare regulation concerns both the regulators' and providers' accountability and transparency towards the citizen's health and economic protection. However, the economic interests of the regulators and providers, the two key healthcare agents, may impact on the effectiveness and efficiency of regulation. Relative deficiency in expected outcomes of healthcare regulation is a phenomenon in both developed and developing countries. Administrative and bureaucratic hierarchy (i.e., command and control approach), and market harnessing are the two broad methods of healthcare regulation. Their application varies among countries based on the extent of public or private or mixed system of healthcare provision (Ensor & Weinzierl, 2007). A public-private mixed healthcare system is common worldwide. However, in developing countries this type of system can be a real concern for the poor clients because of the imperfect market mechanisms and undergoverned macro-institutional structure with corruption. Effective regulatory mechanisms for enforcing providers' liabilities have yet to be established in developing countries to maintain service quality and cost and to protect clients from potential harms (Leonard *et al.*, 2013; Begum *et al.*, 2000).

Bangladesh has been operating as an open-market economy since the 1980s; a steady autonomous growth of the private health market has resulted in a public-private mixed healthcare system (Ahmed, 2008; Barkat and Maksud, 2003). Based on financing sources, out of the three categories of public-private mix healthcare provision in Bangladesh as defined by Begum *et al.* (2000), the tax and donor financed public sector and the privately financed formal for-profit-private sector is the key interest of this study. The non-governmental organizations (NGOs) are mostly donor funded. The public and private sector are the main sources of curative healthcare services; in addition, the public sector is the major provider of preventive healthcare (WHO, 2010; World Bank, 2003). However, the contribution of the NGOs in health is also recognizable. The value-led national and international NGOs have been contributing remarkably over decades through addressing those social determinants which affect negatively on population's health and economic development e.g. women's empowerment, primary education etc. (Leonard *et al.*, 2013; Chowdhury *et al.*, 2013). Since NGO activities are under the control of the NGO bureau rather than the health ministry, this study provides only a limited description of the healthcare roles of NGOs.

Approximately 108 million (72%) of a total 150 million population of Bangladesh constitute the rural segment. Of the total population, 31.5% (rural 35.2% and urban 21.3%) live below the poverty line (Ministry of Health and Family Welfare (MOHFW), 2012a; World Bank, 2013). Resource shortage is a

chronic problem in the public health sector. The private health sector is rapidly growing and has already captured the major financial share of curative health services.

The public healthcare facilities of a district consist of a secondary level district hospital with 100 bed capacity and three-tier primary health care (PHC) facilities. The Community Clinic (CC) is the basic village level outdoor facility of the PHC-system; others are Union Sub-Centre (USC) - one for each selected union (i.e., a basic rural local government unit consists of several villages), and Upazilla Health Complex (UHC), the referral PHC facility with a 50 bed capacity at each upazilla (i.e., a sub-district consists of several union) (MOHFW, 2012a). Geographic distribution and capacity (quantity) of health facilities, and resource allocation in the public sector are political decisions, while in the private sector these are the outcomes of autonomy of the private investors.

Absence of health insurance forces the poor to pay beyond their ability. In 2009, private health expenditure (PvtHE) constituted 67.1% of the total health expenditure (THE); of this, 96.5% was households' out-of-pocket payments (OPP) (WHO, 2011). The remaining 32.9% public share of the THE is insufficient to meet the public sector clients' healthcare needs. Therefore, clients of public healthcare facilities have to purchase unmet drugs and diagnostics from the private sector. Econex (2011) described this common phenomenon in many developing countries as the out-of-pocket payments (OPP)-model' of healthcare system and a potential risk for inequity and impoverishment. By 2011, about 69% of the registered doctors were privately employed. Bed capacity in the public and private sectors was 53,488 and 42,237 respectively (MOHFW, 2012a). So, in the public sector, there are more beds but less doctors and less money. Due to absenteeism, insufficient recruitment and dual practice of public doctors along with concentration of doctors in big cities, the existing low doctor-bed ratio is aggravated in rural public healthcare facilities (Lewis, 2006). As a result, about 70% of the clients and even 75% of rural clients use the private market for curative care, while the public sector is the main source of preventive services such as the expanded programme on immunization (EPI). However, high healthcare costs, low quality, and inappropriate diagnostic tests and medication are the potential health and economic threats in the private market. These factors are the issues of healthcare regulation. In Bangladesh, the basic regulatory Acts/Rules are in place; however, gaps between legal provisions and implementation exist (WHO, 2010; World Bank, 2003).

Overview of the Healthcare Regulation

The key regulatory actors of the healthcare system of Bangladesh are the public regulators, provider associations, providers and clients. The MOHFW is the top of the hierarchy responsible for the national health policy and planning (appendices 1, 2, 3 & 4 in supplementary file outline the organizations of different levels of the health regulatory components of the MOHFW). The Directorate of Health Services, headed by the Director-General of Health Services (DGHS), is the central authority to execute the regulatory policies of the MOHFW through its seven divisional and sixty four district (local) health authorities namely the Director

and the Civil Surgeon respectively. The Civil Surgeon is the head of a district healthcare system. The Civil Surgeon has authorized roles in the process of license issuing and renewal of the private healthcare facilities. The Upazilla Health and Family Planning Officer (UH&FPO) is the manager of an upazilla healthcare system and supervises the overall PHC activities from village to upazilla level (MOHFW, 2012a). UH&FPO is directly accountable to the Civil Surgeon. Both the Civil Surgeon and UH&FPO are also responsible for liaison with local governments, government and non-government organizations. The Bangladesh Medical and Dental Council (BMDC) is a regulatory body under MOHFW that controls personnel licensing. Provider associations are: the Bangladesh Medical Association, the formal association of doctors, and the Bangladesh Private Clinic and Diagnostic Owners' Association. Providers are either public or private employees. Notably, the public doctors are the key providers of specialized services in the private sector as well. There is no consumer association. The healthcare professional and provider organizations tend to protect the interests of their members and businesses; however, protection of citizens' welfare in healthcare system has been neglected (MOHFW, 2012a; World Bank, 2003).

The MOHFW has different regulatory instruments at its disposal to guarantee the quality of medical care. BMDC registration is mandatory for practicing medical doctors following graduation and completion of a one year internship. Graduate doctors and those with post-graduate medical degrees are obliged to renew their licenses every 5 years on simple submission of a renewal-fee; thus, this does not require an assessment of their updated knowledge, skills and performance. The "Ordinance - IV of 1982 for Medical Practice and Private Clinics and Laboratories (Regulation)" is the regulatory instrument for issuing and renewal of licenses of the private facilities (DGHS, 2002). All private health facility owners have to apply for a license to the Directorate of Health Services. The district private facility inspection team exclusively consists of public personnel such as the Civil Surgeon or Deputy Civil Surgeon, Medical Officer of Civil Surgeon office, and either a specialist surgeon or gynaecologist and obstetrician (DGHS, 2002). This team visits private facilities prior to license issue and yearly renewal. The key requirements for license issue and renewal are identical and include: for each 10 patients, 3 doctors, 6 nurses and 3 cleaners should be available with a minimum 80 sq. ft. space per patient, and defined equipment and surgical facilities. Certificates of income tax and bank transaction for new license issue/renewal-fees are essential. Written consent of either public or private specialist doctors regarding their willingness to work in the private facilities are also mandatory which legalizes dual practice of the public doctors out of public working-time. Private facilities usually remain out of regulatory oversight except the inspections prior to primary license issue and yearly renewal. Practically, inspection reports are often based on the submitted documents rather than upon the verification of inputs, process and outputs (World Bank, 2003). Within this situation, health is prioritized and integrated in the national poverty reduction strategy (Andaleeb *et al.*, 2007). The key national health policy objectives are to provide

equitable and patient-centered universal primary health care (MOHFW, 2012b). An investigation is essential to assess the opportunities and barriers to healthcare regulation for achieving those objectives. This study aims to describe public and private healthcare services in three remote districts and to investigate public health administrators' and private facility owners' potential explanations of their roles and limitations for ensuring rural people's healthcare needs. We assess the district healthcare regulators' and private providers' accountability towards rural people's health and economic wellbeing.

Methods

Study design, settings and sampling:

A descriptive exploratory questionnaire and audit survey was conducted in three districts of Bangladesh i.e. Gaibandha, Naogaon and Joypurhat. These three districts were purposively selected based on their geographic situation representing the remote rural districts of the country. Table 1 shows the basic socio-demographic data of the sample districts.

The local public health administrators and private proprietors/managers were the respondents. There were in total 26 public administrators including 3 Civil Surgeons and 23 UHFPOs. As all administrators were invited, no sampling procedure was needed. However, to reduce the risk of information bias, administrators with less than two years administrative experience (n=9) were excluded. Public administrators who had retired within 3 years prior to the data collection were also invited to participate. Finally, 22 selected public administrators (17 in-service and 5 retired) were included.

Out of a total 98 private clinics/hospitals in the sample districts, 32 were found eligible based on the following criteria: facilities had actively functioning specialized doctors for specialized services and at least one graduate doctors for daily follow-up care; they were licensed for more than 3 years and currently functioning. Any private facility employing medical assistants as daily follow-up care providers was excluded. All 32 administrators of the eligible private facilities were approached for data collection. Informed written consent was taken from all respondents.

Instruments and data collection:

Two distinct self-administered semi-structured questionnaires, each with a mixture of quantitative closed and more qualitative open-ended items, were prepared for the local public and private health administrators. Since no instrument specific to the healthcare system of Bangladesh was available on this

Table 1: Basic demographic data of the sample districts (Sources: Bangladesh Bureau of Statistics (BBS), 2013a; BBS, 2013b & BBS, 2013c).

District	Area in Sq. km	Total population	Urban %	*Poor %	Literacy %
Gaibandha	2114.77	2,503,507	5.2	29.71	42.8
Naogaon	3435.65	2,633,694	7.2	14.45	48.2
Joypurhat	1012.41	862,252	15.33	24.75	57.5

Notes: Sq. Km=Square kilometers; *Poor is indicated as permanent insolvency

issue, the items of the questionnaires were developed using an e-book of Busse *et al.* (2003), the work of Begum *et al.* (2000) and discussions with the senior doctors. The questionnaires were distributed to and collected from the public and private respondents in person. The following key variables were probed to assess the respondents' opinion on factors influencing their functions and performances: prioritization of the rural healthcare needs and interventions, human and material resources management, healthcare costs and quality control, and relations among the key actors of healthcare. The quantitative data on infrastructure, workforce, distribution, capacity, and availability and utilization of healthcare both in the public and private facilities in 2012 were collected from the sample districts' Civil Surgeon offices and summary estimates based on the number of registered patient records in the annual report 2012 of the private facilities. Data entry was conducted by an assistant that was cross-checked by the Principal Investigator regularly. Data was collected during July to August 2013.

Statistical Analysis:

SPSS version- 20 was used for data analysis. The characteristics of the study sample were described as percentages. Descriptive statistics such as means, percentages and ratios were generated for other variables. Chi-square tests were done to determine differences between proportions of the performed normal and caesarean deliveries at public and private facilities. A comparison between the proportions of the indoor interventional and conservative management at public and private facilities was also conducted. A p-value <0.05 was regarded as significant.

Results

Respondents

The response rate among the public and private respondents was 100% and 62.5% respectively. Except two, all were men. All public respondents had over 20 year experience of working

in the public sector and were promoted from general physician to administrator.

The private respondents (n=20) consisted of ten doctors and ten non-doctors. Four of the doctors were self-employed and six doctors, being public employees, were investors since direct private facility ownership of the public doctors is restricted by the Ordinance-1982 (DGHS, 2002). Among the non-doctors, 7 were proprietors and 3 salaried managers.

Structuring the district healthcare system: Distribution and capacity

Table 2 shows that, each with a 100 bed capacity, the Naogaon and Gaibandha district hospitals covered nearly equal populations, which was nearly three times larger than in Joypurhat. The calculated average population coverage per PHC facility was nearly equal over the sample districts. Total bed capacity in the public sector was about 1.3 times higher than in the private sector. Bed capacity of the public sector in Gaibandha district was approximately two and three times smaller than in Naogaon and Joypurhat respectively; in the private sector, again Gaibandha was the smallest among the sample districts.

All of the sample private facilities were licensed to operate 10 beds, except two in Naogaon which had 20 beds permission. The following three factors were commonly considered for private facility-site selection: availability of specialist doctors, higher income groups, and transport facilities.

Prioritization of healthcare needs and interventions:

About 82% of the public sector respondents commented that the PHC system is well-structured. All public respondents remarked that health promotion with limited curative services is the key objective of the PHC system. However, approximately 64% of the public and 90% of the private sector respondents stated that curative rather than preventive services were the primary

Table 2: Reported infrastructure of the district healthcare system in the sample districts in 2012 (Sources: Civil Surgeon Office (CSO), 2013a; CSO, 2013b & CSO, 2013c).

District	Public sector					Private sector			
	SHC facilities		PHC facilities			Total bed capacity	Bed/10,000 population (app)	Total bed capacity	Bed/10,000 population (app)
	DH (bed)	UHC (bed)	USC	CC	Pop/PHC				
Gaibandha	1 (100)	7 (225)	137	299	5651	325	1.3/10,000	140	0.56/10,000
Naogaon	1 (100)	11 (540)	166	295	5591	640	2.4/10,000	710	2.7/10,000
Joypurhat	1 (100)	5 (220)	33	111	5826	320	3.7/10,000	160	1.8/10,000
Grand total	3 (300)	23 (985)	336	705	5689	1,285	2.1/10,000	1,010	1.7/10,000

Notes: SHC=Secondary Health Care; #PHC=Primary Health Care; DH=District Hospital; Pop/PHC=Population/Primary Health Care Facility

demand of the population. All private respondents reported that they were not providing preventive services of public interest such as the expanded programme on immunization (EPI). Of them, 85% stated that preventive services are not profitable; while 30% suggested public support for preventive services.

Human and material resources management:

Serious shortage of human resources was commonly reported by both the public and private respondents. Nearly 62% of the public doctors' posts were identified vacant. Vacancies were found directly related to the remoteness of facilities (Table 3). The following were the underlying factors of doctor shortage in rural facilities as reported by the public respondents: lack of suitable working and living facilities (91%), low salary and non-provision of incentives (91%), insufficient recruitment (95%), political influence for transferring doctors (91%) and lack of local authority's power to deploy and transfer doctors (82%).

In the private sector, 90% of respondents reported difficulties to employ full-time doctors and 60% reported the same for nurses. Notably, these are the key requirements for issuing and renewal of private facility license. Lack of skilled man-power and high expenses of employing skilled manpower were the underlying causes mentioned by 90% and 60% private respondents respectively. Remarkably, 70% of private respondents complained that the private facility licensing/accreditation criteria for human resources would also disqualify public facilities, thus creating a double standard causing discrimination and dissatisfaction in this mixed healthcare sector.

Nearly 64% of the public sector respondents stated that often expensive equipment and medicines were supplied centrally without local requisition and need assessment, resulting in misuse and wastage of resources. All UH&FPOs evaluated UHCs as materially better equipped than many private facilities to perform surgeries; however, no operations were performed in any UHC except caesarean sections in those with the demand side financing (DSF) programme. Notably, DSF programme has provision of financial incentives to both providers and clients for caesarean as well as normal deliveries (MOHFW, 2012a).

Three common barriers were identified: firstly, inefficient posting and deployment of specialist doctors; secondly, uncoordinated or individual interest-based posting of surgeons and anesthesiologists at different facilities to reduce workload in the public and to facilitate private practice; and lastly, work volume or performance was not linked to service benefits for the public doctors but rather the duration of service. Notably, except one, all in-service UH&FPOs reported non-functioning of X-Ray machines over months to years. Informal talks revealed the following key reasons: in the public sector, neither efficient use of medical equipment is related to reward nor asset damage to liability or sanction rather malfunctioning of the public equipment often leads to increased referral to the private facilities. All of the public participants stated that centralizing the authority for maintenance and repair caused delays in repairing ambulances and medical equipment that impedes rural people's equitable access to healthcare. Conversely, maintenance and efficient utilization of resources were revealed as regular activities in the private sector to increase profit within minimum investment as well as survival in the market.

Regulating healthcare costs/prices:

About 91% of the public respondents reported insufficient budget to meet population healthcare needs. Both rich and poor pay equally the politically decided minimum user fees in the public sector; however, due to shortage of public diagnostic facilities and medicines, clients have to purchase those privately. Strikingly, all participants responded that there was no effective control of pricing for the private market. Though a fee-schedule has to be publicly displayed, charges often exceed the schedule since all private respondents reported their autonomy in determining prices. They also stated that the prices of the major services, like surgery charges, are usually determined by the dual-practitioners. Due to lack of information and cost-capping in the private sector, healthcare prices are commonly agreed through bargaining between clients and providers. We identified the following key factors determining prices: considering service quality (60%), clients' affordability (60%) and sustainability in the market (80%); consequently, both cost and quality often are compromised.

Again, it was commonly mentioned that due to the absence of

Table 3: Reported number of sanctioned and deployed, and calculated proportions of vacancies in the posts of the public doctors at three different types of facilities in the sample districts as of 2012 (Sources: Civil Surgeon Office (CSO), 2013a; CSO, 2013b & CSO, 2013c).

Districts	USC			UHC			District hospital		
	San.	Dep.	Vac. (%)	San.	Dep.	Vac. (%)	San.	Dep.	Vac. (%)
Gaibandha	85	32	62	57	37	35	22	18	18
Naogaon	103	19	81	165	41	75	19	19	0
Joypurhat	33	8	76	61	23	62	43	30	30
Total	221	59	*73	283	101	*64	84	67	*20

Notes: USC=Union Sub-Centre; UHC=Upazilla Health Complex; San.=Sanctioned; Dep.=Deployed; Vac.=Vacancy; Asterisks (*) indicate average vacancies of the doctors

gatekeeping and ineffective referral systems in the public sector, clients enjoy freedom of selecting providers. Additionally, lack of limitation or specification of activities for the specialized and graduate doctors often resulted in inappropriate treatment and poor quality. Out of two payment systems in the private sector, while the itemized-bill often resulted in over-supply including prolonged hospitalization, conversely, total-contract prices resulted in under-supply with early discharge. About 80% of private respondents stated that return was inadequate mainly because of the high investment and maintenance costs. However, about 95% of the public health administrators favoured increased price-control in the private market.

Healthcare quality control:

Effects of regulation on process and output

Regulation of providers, either prospective or retrospective or both, is information and resource intensive. All public respondents considered the new management information system of the MOHFW as a remarkable initiative that provided a wide range of information of the public sector. However, information about the private market remains limited due to three key barriers: firstly, shortage of skilled human and financial resources for regulation; secondly, often the license issue/renewal inspection team members are either investors and/or specialized dual-practitioners of the private facilities under inspection; and lastly, double-standard registration of services provided was not uncommon to escape taxation. Continuous Professional Development (CPD), clinical protocols and auditing are crucial process-oriented tools for assessing evidence-based clinical practices and service quality as well. However, all respondents confirmed that these tools were not used, since those indicators are not required for facilities and personnel accreditation.

All public respondents admitted that healthcare quality was often compromised because of the over-crowded outdoor, emergency and indoor clinics along with serious shortage of manpower. In 2012, the reported average bed occupancy rate in the public facilities was 151.6%. This indicates that the public facilities accommodate beyond their actual capacity. However, 90% of the private respondents reported non-admission and transfer of emergency patients to public facilities. They mentioned the following reasons: concern for reputation and difficulties in cost reimbursement if a bad outcome resulted.

To assess over- or under-supply of services, we compared the proportion of interventional (e.g. surgeries, caesarean

section and normal deliveries) to conservative management in the sample district hospitals and private health facilities. Table 4 shows that the proportion of caesarean to normal delivery in the sample private facilities was 81.7%, which was over 3 times higher than in the district hospitals ($p < 0.001$). The calculated combined share of the interventional management in the sample private facilities was quite high, 87.6% of all reported indoor services, but only 13.7% in the district hospitals ($p < 0.001$).

Again, the number of surgeries in the sample private facilities was nearly three times more than in the sample district hospitals, even though, bed capacity in the sample district hospitals was nearly 1.4 times more than in the sample private facilities and the same specialized dual practitioners performed the operations in both public and private of facilities.

Relationship among key healthcare actors:

Central-local power relations in healthcare

All public respondents identified the healthcare regulation system as strictly centralized with associated delays in decision making and implementation (95%), transfer of rural doctors without notifying the local authority (95%), deployment of doctors not meeting the local needs (95%) and central policy makers lack knowledge of local health needs (68%). As a consequence, district and upazilla level public health administrators are trapped between the pressure of the citizens' unmet demands and compliance to the stringent bureaucracy. They recommended gradual administrative decentralization in the above areas to improve rural people's equitable access to healthcare.

Public-private interaction in healthcare

All private respondents claimed that their contributions to the health sector achievements were not recognized. 80% of the private respondents identified the Ordinance-1982 as outdated and in need of consensus-based amendment. All private respondents favoured shifting of the exclusive public to a public-private mix healthcare regulatory body.

Clients' participation in healthcare

Approximately 80% of the public respondents strongly agreed that the clients' participation in the healthcare regulation had yet to materialize. They mentioned the following key effects of non-participation of clients: population's healthcare demands remain unknown to the policy-makers/providers, and lack of awareness of resource constraints often contributes to

Table 4: A compare of the distribution of conservative to interventional management of the admitted patients in the sample district hospitals and sample private facilities in 2012.

Facility	Bed capacity	Indoor patients				Total
		CM	Interventional management			
			Surgeries	CS	NVD	
DH	300	51, 676	2, 974	1, 346	3, 871	59, 867
Pvt. cl/hos.	220	2. 565	8, 390	7, 999	1, 791	20, 745

Notes: CM=Conservative Management; CS=Caesarean Sections; NVD=Normal Vaginal Delivery; DH=District Hospital; Pvt. cl/hos.=Private Clinic/Hospital

clients' high or irrational expectations and results in low levels of satisfaction. Moreover, the communication gap between healthcare authorities and providers often was related to inadequate responsiveness of providers to clients. Ultimately, lack of room for clients' involvement perpetuates mistrust and disturbed provider-client relationship in the healthcare sector.

Discussion

The key interest of this study is to describe the district public and market-based private healthcare structure and respective authorities' and owners' opinion regarding their roles and limitations to meet rural people's healthcare needs. The PHC structure of Bangladesh is well organized. However, optimal productive utilization of human and material resources of PHC system has yet to be developed to improve the rural people's equitable access to healthcare. There are gaps between healthcare policy decision and implementation. Incoordination, demotivation and non-participation of the key actors of healthcare regulation challenge to achieve health policy objectives.

Uncoordinated posting, promotion, deployment and transfer of doctors along with absenteeism indicate inefficiencies in the human resource management in the public healthcare sector, especially at the PHC level. Doctors are demotivated to work in rural facilities. Combined with insufficient employment, there is ineffective regulation to retain doctors at rural areas which is often aggravated by unfair professional politics. Motivational incentives to retain rural doctors are essential, which have been proved effective elsewhere, for example, provision of free housing, equipment and career-path in Romania (Busse *et al.*, 2003) and rural doctors' preference of locum relief incentive and retention payment in Australia (Li *et al.*, 2014). Central allocation of resources without assessing local needs and outcomes seriously damages efficiency. Additionally, prolonged non-functioning of X-ray machines and ambulances indicates lack of accountability in managing the public resources. This is associated with low staff morale with personal interest as well as imbalanced power- relations between the central and local public health authorities resulting in incoordination. These findings of technical inefficiency in human and material resources management relating to the intense bottle-necks in the public sector are also consistent with the work of Begum *et al.* (2000). Efficiencies in resource management in the public sector could be improved by allocating more autonomy to the local level. According to the public respondents' opinion, strategic shift of managerial autonomy to the local authority (e.g. deconcentration) could improve human and material resource management efficiency. Notably, the experiences of decentralization in Vietnam, Indonesia and Philippines show encouraging results in some services but no change in others. However, Leonard *et al.* (2013) & Lieberman *et al.*, (Undated) suggest that decentralization needs to be institutionalized and for making the mechanism effective, formal and valued informal actors' representation in the decentralized unit is crucial for making strategic decisions about organizational rules, norms, values and incentives aiming to shape the market actors behaviour. Again, evidence shows that if incentives are not related to workload and accountability, they may induce absenteeism, weak motivation to work hard and a tendency to

find extra income sources (Mills and Ranson, 2001, p. 515-559). Therefore, provision of performance-based incentives rather than paying by service duration may improve public employees' productivity.

The current licensing process is ineffective in controlling the urban distribution of the private facilities since it is under the control of the private investors. Urban-based facilities and curative care are not cost-effective for rural people. The concentration of the private market in urban areas is an explicit risk of 'supplier-induced demand' that lacks external control. Omissions in the healthcare regulation may have contributed to the higher out-of-pocket payments with consequent impoverishment. The need-based legal control over the distribution of private facilities prior establishment e.g. "ex-ante approach" as is practiced in the Netherland (Busse *et al.*, 2003) along with public-private partnership for achieving public health goals in the private sector may improve the situation. Notably, unlike the public sector, the profit-maximizing private sector remains free from the bureaucratic trap; hence, more efficient in cost-containment. However, cost containment in the private sector is often linked with employing unskilled rather than skilled workforces, which contradicts the license issuing or renewal rules and compromises service quality.

Cost and quality control and trust-building in this public-private mixed healthcare system are crucial achieving effectiveness of regulation. In the public sector, clients irrespective of socio-economic strata have to pay equally. Because of this regressive payment system, inequity exists in the public sector. Health is treated as a commodity in the private market where information asymmetry, profit maximization and the absence of an anti-trust system enhance the threats of cost-shifting, inappropriate over-supply with consequent health and economic damage. Moreover, since costs and quality are often compromised, consumers' right to quality care is sacrificed by business interests. Further, non-participation of consumers in an organizational structure and the absence of consumer associations inhibit service efficiency and quality control, and impact on consumers' voice, trust and satisfaction in healthcare. Institutionalization of consumers' participation; thus, voice in healthcare along with system of signaling quality-ranking of providers and facilities is potentially effective in preventing market imperfection and improving health and economic wellbeing of the vulnerable population (Leonard *et al.*, 2013; Ensor & Weinzierl, 2007).

Providers' and facilities' performance in terms of service quality and volume are commonly assessed and controlled by accreditation. The traditional private facilities license renewal process does not ensure the competence of providers. Therefore, publicly disseminating providers' quality ratings is unrealistic; as a consequence, consumers lack correct choice of providers.

Out of all inpatient services, conservative management in the sample private facilities is approximately 7-times higher than in the sample district hospitals. Moreover, the reported ratio of caesarean to normal delivery in the sample private facilities is quite high (nearly 4.6), which is clearly alarming in terms of the consumers' health and economic consequences. Again, 3-times more surgeries in the sample private facilities with nearly 1.4-folds lower bed (n=220) capacity than in the sample district

hospitals (n=300) is also noticeable since service providers are the same public dual practitioners. Further, the involvement of the regulatory team members with the private market often results in nominal control over the private market; hence, ineffective in harnessing of market. These findings warrant further empirical exploration of the underlying influences, which are implicit but not impractical in this mixed-provision of healthcare, such as the relation between income-interest of dual practitioners and higher conservative management in the public with strategic shifting of patients to private facilities. Noticeably, an average bed occupancy rate in the sample public facilities is approximately 1.5-times higher than bed capacity which indicates that the demands for the public facilities exist.

The evidence-based prospective and retrospective process-oriented accreditation practice as present in Germany and the UK (Busse *et al.*, 2003) could be effective to improve quality of care and providers' responsiveness. However, wide public-private representation in the accreditation team, skills of the members, financial sustainability and a defined set of standard care are the prerequisites for effective accreditation. The experiences in Mumbai (Nandraj, 1999) and Zambia (Bukonda *et al.* 2002) suggest that a regulatory team including government, non-government, consumer, and provider participation can be effective. However, sufficient legal authority to implement either rewards or sanction for standard or poor performance respectively along with financial support is crucial for the team (Ensor & Weinzierl, 2007).

According to the public respondents' statement, because of the stringent bureaucracy, compliance with administrative procedures and satisfaction of all key stakeholders in the public health sector are mutually exclusive. However, the hierarchical power gradient does not affect the private market because of the outdated regulatory ordinance and public regulators' interests as private entrepreneurs or providers. Even so, private providers perceive it as unfair that their contribution in the healthcare is not recognized; hence, they are too dissatisfied.

Notably, the public sector lacks market competition; although, competition exists in the private healthcare market. However, since public doctors are the key providers as well as the drivers of the competitive private market, and work volumes in the public sector do not relate to incentives, the intra and inter-market competition within and between the public and private healthcare sector are not operating effectively. However, competition is the essence of a perfect market. In a public-private mix healthcare system like Bangladesh, without competition, optimally achieving the healthcare goals of the public component could be challenging. We identified that in the public health sector of Bangladesh competition is discouraged because of the system. A competition in the public health sector could potentially be effective for improving its performance. However, consensus among all stakeholders and adequate incentive are essential to overcome drawbacks relating to staff dissatisfaction.

Strengths and Limitations

No earlier study was traced that included district level public and private healthcare administrators in Bangladesh. The relatively low response rate along with lack of opportunity to validate the data of the private sector, together with the selection of only three of 64 districts, limits generalizability of

the findings. However, since this is a descriptive exploratory study and a unitary centralized healthcare regulation exists in a relatively homogenous socio-demographic context, this study is expected to be effective in describing needs for strategic regulatory reform. The practical experience-based information from the local healthcare authorities is a strength of this study. In a strong bureaucratic institutional culture with its practices at all levels of the public healthcare regulatory system, the open-secret notion of systematic corruption could not be explored. Probing into subjective opinions of both clients and providers is crucial for an in-depth assessment of the effectiveness of the healthcare regulation that was beyond this study.

Conclusion and Recommendations

Inefficiency is a major issue in the healthcare system of Bangladesh. While the public segment of this OPP-model of the healthcare system does not provide adequate services to the poor, the rapidly growing market-based private segment aims to maximize profit. To increase rural people's access to healthcare, improvement in the regulatory efficiency for using the available PHC resources is more important than increase in the resource allocation. However, prevention of information asymmetry and unhealthy competition in private market are high priority. Inequity rules the healthcare sector of the country. Although the private market supplements the public inadequacy of healthcare coverage, the economic consequence is that the majority of clients in this mixed market are at the potential risk of impoverishment. Power imbalance among the players with consequent dissatisfaction thrives on the inadequately effective healthcare regulation. Implementation with appropriate contextualization of evidence-based regulatory practices elsewhere in the world is essential to improve the healthcare delivery system.

To achieve the healthcare goals of equitable access to quality healthcare, reform in health system regulation is recommended. A strategic administrative decentralization with representation of the public and private sector actors, professional body, consumers' and recognized value-led NGOs would reduce central-local power gaps and increase efficiency of resources management in the public sector. Adequate legal authority and financial support to the decentralized body for evaluating providers' performance; accordingly, implementing reinforcement, in other words, reward and sanction along with channeling a provider-rating system would improve market actors' compliance and reduce threats of market failure. Provision of both financial and non-financial incentives is recommended to retain doctors in the PHC facilities. A consensus and evidence-based amendment to the Ordinance-1982 involving all key actors is also a high priority. Rural clients' feedback mechanism has to be institutionalized to improve their voice; thus, health and economic wellbeing as well.

Ethical Approval

Ethical clearance was confirmed by the ethical committee of the Faculty of Social Science of the University of Rajshahi, Bangladesh. Also, written permissions were taken from the district authority of health services, i.e., Civil Surgeons of all three study districts.

Acknowledgement

Authors of this paper thank the Netherlands Fellowship Programme (NFP) for funding this research (grant reference No.: NFP-PhD 14/139). Authors also would like to thank all the public and private health administrators and senior doctors of the sample districts for their generous cooperation.

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Submitted: May 28, 2016; Accepted: Jun 16, 2016; Published: Jun 23, 2016