

Who are more responsive? Mixed-methods comparison of public and private sector physicians in rural Bangladesh

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Abstract

Responsiveness of physicians (ROPs) reflects the social actions by physicians to meet the legitimate expectations of health care users. Responsiveness is important since it improves understanding and care seeking by users, as well as fostering trust in health systems rather than replicating discrimination and entrenching inequality. Given widespread public and private sector health care provision in Bangladesh, we undertook a mixed-methods study comparing responsiveness of public and private physicians in rural Bangladesh. The study included in-depth interviews with physicians ($n = 12$, seven public, five private) and patients ($n = 7$, three male, four female); focus group discussions with users (four sessions, two male and two female); and observations in consultation rooms of public and private sector physicians (1 week in each setting). This was followed by structured observation of patient consultations with 195 public and 198 private physicians using the ROPs Scale, consisting of five domains (Friendliness; Respecting; Informing and guiding; Gaining trust; and Financial sensitivity). Qualitative data were analysed by framework analysis and quantitative data were analyzed using two-sample t -test, multiple linear regression, multivariate analysis of variance, and descriptive discriminant analyses. The mean responsiveness score of public sector physicians was statistically different from private sector physicians: -0.29 vs 0.29 , i.e. a difference of -0.58 (P -value < 0.01 ; 95% CI $-0.77, -0.39$) on a normalized scale. Despite relatively higher level of responsiveness of private sector, according to qualitative findings, neither of the sectors performed optimally. Private physicians scored higher in Friendliness, Respecting and Informing and guiding; while public sector physicians scored higher in other domains. 'Respecting' domain was found as the most important. Unlike findings from other studies in Bangladesh, instead of seeing one sector as better than the other, this study identified areas of responsiveness where each sector needs improvements.

Keywords: Responsiveness, human resources for health, health systems, public sector, private sector, Bangladesh, mixed methods

Key Messages

- Since the government is the ultimate steward, information regarding the status of general and comparative responsiveness of physicians across domains of responsiveness can help specify areas for improvement in human resources for health policymaking.
- Despite slightly higher responsiveness score of private sector physicians, qualitative inquiry suggested that neither public nor private physicians were sufficiently responsive.
- Among five subscales of responsiveness, private sector physicians scored higher in Friendliness, Respecting, and Informing and guiding; whereas public sector physicians scored higher in Gaining trust and Financial sensitivity subscales.
- This domain-specific understanding of responsiveness of physicians can allow policymakers develop targeted interventions for both public and private sectors.

Introduction

Responsiveness was recognized as a core part of health systems by the World Health Organization (2000). The WHR 2000 suggests seven domains of health systems responsiveness: respect for dignity, confidentiality, autonomy, prompt attention, amenities of adequate quality, access to social support network (particularly for indoor patients), and choice of provider (DeSilva 1999; WHO 2000). In 2005, *The Health Systems Responsiveness Analytical Guidelines for Surveys in the Multi-country Survey Study (MCSS)* proposed an updated version with an additional domain, ‘clear communication’ (Letkovicova *et al.*, 2005, p. 10). During and after the WHR and MCSS, other scientists examined responsiveness in specific geographical (e.g. Europe, Turkey, Kenya, South Africa, Taiwan, Iran, and Germany) or professional (e.g. primary health care, mental health, emergency department, HIV/AIDS testing, and public and private hospital) settings (Coulter and Jenkinson 2005; Hsu *et al.* 2006; Ugurluoglu and Celik 2006; Bramesfeld *et al.* 2007; Joarder 2008; Njeru *et al.* 2009; Peltzer 2009; Forouzan *et al.* 2011; Javadi *et al.* 2011; Morphet *et al.* 2012). This trajectory of research on health systems responsiveness focused on the context of or the organization of the health system as a whole, and did not exclusively focus on any one domain, such as human resources for health (HRH).

With regards to HRH responsiveness in particular the *Joint Learning Initiative on HRH* (2004, p. 49) notes that poor performance of HRH compromises responsiveness to health care users. Subsequently, the *WHR 2006: Working Together for Health* suggests four domains of HRH performance, including responsiveness (others being availability, competence, and productivity) (WHO 2006). Although highlighting the importance of HRH responsiveness, neither of these publications proposes a clear definition of HRH responsiveness. Therefore, drawing from the definition of health systems responsiveness (WHO 2000), we define responsiveness of physicians (ROPs) as the ‘social actions by physicians to meet the legitimate expectations of service seekers’.

Responsiveness of HRH is important since it improves care-seeking, health information adoption (Njeru *et al.* 2009), and trust in providers (Gilson 2003). Insolent provider behaviour dissuades marginalized patient groups, such as the elderly, chronic care patients (Bhojani *et al.* 2013), expectant and new mothers (Ekirapa-Kiracho *et al.* 2011), and lesbian-gay-bisexual-transgender community members (Wirtz *et al.* 2014), leading to compromised wellbeing. In Bangladesh, numerous newspaper articles and some social science literature point to the humiliation of patients by physicians (Zaman 2004), resulting in patient dissatisfaction, vandalization of health facilities, and physical abuse towards providers.

The health care context in Bangladesh is one in which the private sector is expanding rapidly (The World Bank 2005) in both urban

and rural areas (Ahmed *et al.* 2013). Since there is no legal restriction against dual-practice, 80% of the physicians are engaged in dual-practice (Gruen *et al.* 2002). Despite efforts by the Government of Bangladesh (GoB) to improve HRH performance, including their responsiveness (Aldana *et al.* 2001), satisfaction of patients with and consequent utilization of government health facilities is declining—as evidenced from three household surveys in 1999, 2000 and 2003 (Cockcroft *et al.* 2007).

A study from Vietnam (Tuan *et al.* 2005) found that public sector physicians perform better than private ones in terms of quality of care. However, the preponderance of studies suggests that the private sector performs better; especially in terms of responsiveness elements like communication, politeness, providing information, explaining health conditions, taking history in detail, and examining with care (Bennett 1992; Harding and Preker 2003; Rowe *et al.* 2005; Russell 2005; Pongsupap and VanLerberghe 2006a; Das *et al.* 2008; Berendes *et al.* 2011; Rannan-eliya *et al.* 2014). Evidence from Bangladesh also supports this notion of improved quality of care and particularly responsiveness of private sector physicians over public sector ones (Andaleeb 2000a,b; Aldana *et al.* 2001; The World Bank 2005; Andaleeb *et al.* 2007a,b; Siddiqui and Khandaker 2007). These studies did not however compare public and private sector physicians’ responsiveness by decomposing responsiveness into its constituent domains.

Since the government is the ultimate steward, even in a pluralistic health system like Bangladesh, information regarding the status of general and comparative ROPs across domains can help specify areas for improvement in HRH policymaking. With this aim in mind, we sought to compare responsiveness of public and private sector physicians in rural Bangladesh. We first present the overall difference in responsiveness of public sector and private sector physicians; and then detail their difference across five domains of responsiveness—both quantitatively and qualitatively.

Methods

This study adopted an explanatory mixed-methods design, where quantitative findings were explained through qualitative findings (Creswell and Clark 2011). This study was conducted on physicians with at least an MBBS degree (or equivalent foreign degree) from medical colleges accredited by the Bangladesh Medical and Dental Council. Public sector physicians are those employed by the GoB, and private ones are employed by either for-profit or not-for-profit non-government organizations (NGOs). A physician was counted in the public sector if observed in a public setting (e.g. Upazila or Sub-district Health Complex); and in the private sector if observed in a private setting (e.g. clinic, pharmacy, chamber in residence etc.), regardless of whether he/she also worked in the other setting. The qualitative data

were collected mainly by the first author, except four in-depth interviews (IDIs) (two with public sector physicians, and two with users) by a male Research Assistant (RA), and two focus group discussions (FGDs) (with female users) by a female RA. The male RA conducted the IDIs because of overlapping appointment schedules, and the female RA conducted the FGDs to facilitate rapport with female respondents. Both were trained anthropologists with significant experience and training in qualitative data collection. The quantitative structured observations were conducted by 20 RAs (all masters level university students) trained for 10 days; 4–6 h/d. Their training included ethical principles in human subject research, orientation to the research project, basics of health policy and systems research, research methods basics, specific research methods relevant to the study (IDI, FGD and structured observation), orientation to specific research tools, hands-on training on mobile-based data collection and practice data collection.

Qualitative component

The exploratory qualitative part of the study was conducted in southwestern Bangladesh, in all three rural Upazilas (Alamdanga, Damurhuda and Jibannagar) of Chuadanga district, between August and September 2014. Data collection included IDI with seven public and five private sector physicians, and seven users; four FGD sessions with users (two male and two female); and observation in consultation rooms of public (1 week in Upazila Health Complex) and private (1 week in a for-profit clinic and an NGO-clinic) sector physicians. Respondents were added to the list until data saturation (Ritchie *et al.* 2003) was achieved.

For providers, we followed heterogeneous purposive sampling (Ritchie *et al.* 2003), aiming for maximum variation across gender, age and experience. The first author approached them after preparing a list of all physicians working both in public and private sectors in the district. For IDIs with clients, we followed heterogeneous purposive sampling, with maximum variation in age, gender, level of education and occupation. We generated a list of potential respondents with inputs from local residents (personal contacts) and contacted them. Selection criteria for respondents were: >18 years age, consulted a physician at least twice in lifetime, with the last consultation within 1 year. For FGDs, we followed homogenous purposive sampling, attempting homogeneity in terms of gender (and also profession in case of females). Female FGD respondents were selected from the female employees of two local educational institutions (a school and a college). Selection of sites for observation was based on principles of convenience sampling (feasibility of travel at different times of the day) as well as purposive sampling (ensuring coverage of both public and private sectors).

Qualitative data were managed using ATLAS.ti version 7.5.2. The analysis process included: data familiarization, coding schema or framework development, data coding, grouping, and data interpretation. Initial codes were derived deductively from literature as a priori codes; while inductive codes were added during subsequent stages of analysis. To increase validity, the first (T.J.) and third (M.S.) author independently coded the dataset. Another senior researcher was involved where a third opinion was warranted to reach consensus or resolve controversial issues. The tools were translated and back translated; but the transcripts were not, since both the coders were native Bengali speakers and the collected data were also in Bengali.

Quantitative component

This research draws on a larger study that included formative research, an extensive literature review, and a psychometric study

with rural physicians in Bangladesh (Joarder 2015) to derive a ROPs Scale, that measured five domains of physicians' responsiveness: (1) Friendliness, (2) Respecting, (3) Informing and guiding, (4) Gaining trust and (5) Financial sensitivity (Joarder 2015). The scale demonstrated high internal consistency (alpha 0.91). Corrected item-total correlations were high—ranging from 0.21 to 0.65. The scale demonstrated good inter-rater reliability with intra-class correlation coefficient (2, 1) of 0.64 (95% CI 0.37, 0.81) (Koch 2006). Concurrent validity of the scale was established by correlating the scale score with consultation time (under the assumption that responsive physicians would give more time to patients) (Netemeyer *et al.* 2003; DeVellis 2011); there was a fair correlation of 0.51.

The scale consisted of 34 items with four-point Likert-type response categories. Each response category was anchored with a scenario. Response categories were: '1'—lacking responsiveness at all; '2'—representative of an average physician; '3'—better than average; and '4'—best practice or textbook scenario. Items that could not be observed due to inapplicability in the given context or any other reasons were coded 'Not Applicable'.

Sample size was calculated to be 182 observations from each sector, assuming a two-sided 0.05 level of significance, 80% power, standard deviation of 0.96 for public sector and that of 0.73 for private sector (Andaleeb *et al.* 2007b), and a detectable mean difference of 0.25 on a five-point Likert scale. Anticipating some non-response and refusals, we adjusted the target to be 200 from each setting. Using the ROP-Scale structured observation tool (Supplementary material S1) installed in smart phones, we conducted a cross-sectional survey of physicians practicing in rural Upazilas (sub-districts) of Khulna division of Bangladesh, between December 2014 and January 2015.

A list of all physicians in Khulna district who were likely to be present during the data collection period was prepared beforehand. We chose the census method, as there were not sufficient physicians for sampling. We managed to collect data from 397 consultations (three physicians refused the structured observation); but had to discard four for being defective (data collectors mistakenly observed them twice). Finally, we included in our analysis 393 consultation sessions—195 from public sector and 198 from private sector.

The unit of data generation was the observation of consultations; not the individual physicians or the patients *per se*. During structured observations, we allowed the first 10 observations as 'wash-outs' and recorded the eleventh only, as performance of observed physicians tends to return to pre-observation state after the 10th observation (Leonard and Masatu 2006). In order for the observations to be as homogenous as possible, the following inclusion and exclusion criteria were applied:

Inclusion criteria

- The observations were done only in outpatient settings and with the general practitioners.
- Observations were done if the patient came with simple diseases or conditions, such as common gastrointestinal conditions (e.g. diarrhoeal episodes, peptic ulcer diseases, non-severe gastrointestinal pain of any type), common respiratory conditions (e.g. pneumonia, non-severe bronchial asthma, common respiratory ailments), and other common conditions (e.g. simple skin diseases, viral fever, common cold, allergies, anemia, enteric fever, pyrexia of unknown origin etc.)

Exclusion criteria

- Cases requiring emergency or inpatient care (e.g. assaults, road traffic accidents, poisoning etc.)

Table 1. Characteristics of consultations, physicians and patients in structured observation of public ($n = 195$) and private ($n = 198$) sector

Variable	Public sector	Private sector
Mean number of patients seen by physician per day (self-reported by physicians)	34.42 (16.31)	26.34 (18.35)
Mean consultation time in minutes (recorded by the observer)	4.04 (1.91)	6.02 (2.54)
Percentage of male physicians (recorded by the observer)	66.15	90.40
Mean age of physicians in years (self-reported by physicians)	32.02 (7.32)	41.81 (11.61)
Percentage of physicians with local origin (i.e. from the same Upazila) (self-reported by physicians)	24.10	42.42
Mean years of work since graduation (self-reported by physicians)	8.61 (7.44)	18.15 (11.23)
Mean years of work in rural setting (self-reported by physicians)	3.06 (6.05)	10.45 (9.40)
Percentage of female patients (recorded by the observer)	65.64	55.05
Mean age of patients in years (self-reported by patients)	42.11 (15.90)	42.40 (14.37)
Mean years of education of patients (self-reported by patients)	5.56 (4.43)	7.08 (4.90)

Note: SD is mentioned in the parenthesis.

Only the 11th consultation of each of the observed 393 physicians has been recorded.

- b. Cases requiring additional privacy and confidentiality (e.g. sexually transmitted infections, gynecological conditions etc.).
c. Children under 18 years.

To measure the ROP-Scale score, mean of all item scores were calculated first; then was converted to Z-score. The score for each of five subscales (i.e. Friendliness, Respecting, Informing and guiding, Gaining trust, and Financial sensitivity) was also calculated similarly. Difference between mean responsiveness scores of public and private physicians was measured by two-sample t -test (unpaired) with significance level of 0.05. Multiple linear regression (MLR) was done after controlling for potential confounders. We also performed multivariate analysis of variance (MANOVA) followed by descriptive discriminant analysis (DDA) suggested by [Warne \(2014\)](#) to ascertain the difference between the sectors, to identify the items in which the groups (public and private) did better or worse, and to identify the importance of items in each sub-group and the importance of sub-groups in the overall scale ([Huberty and Olejnik 2006](#)).

Ethical considerations

Ethical approval was obtained from the Ethical Review Board of BRAC University (IRB Registration Number 00009094), Dhaka, Bangladesh. Initial approval was obtained on 19 August 2014; an amendment to conduct structure observation of consultations involving real patients was approved on 12 December 2014. Written informed consent was obtained from all the respondents and the observed persons.

Results

Background characteristics of the sample

In the quantitative sample ([Table 1](#)), physicians observed in the public sector setting (henceforth 'public sector physicians' is used) self-reported consulting more patients, and were observed spending less time with them than those observed in the private. Physicians observed in the private sector setting (henceforth 'private sector physicians') were more experienced and mostly of local origin. Patients visiting them were slightly more educated than those visiting public sector physicians.

In the qualitative sample ([Table 2](#)), most of the physician respondents were males (9 out of 12); three out of five private sector physicians were also involved in the public sector in one way or the other. Among the client respondents, females were slightly younger, while males were more educated. Most of the female respondents were teachers by occupation.

Overall difference between responsiveness of public and private sector physicians

The responsiveness score of public sector physicians was -0.29 and that of the private 0.29 . The difference of -0.58 was statistically significant in t -test (P -value < 0.01 ; 95% CI $-0.77, -0.39$) ([Table 3](#)). This difference remained statistically significant in MLR models after adjusting for the confounding covariates age, gender, and local origin (i.e. from the same Upazila) of physician; and age, gender, and level of education of patient. The β coefficient for practice setting (public or private) was 0.55 (P -value < 0.01 ; 95% CI $0.33, 0.77$). Other potential confounders were not statistically significant.

In MANOVA, all four test-statistics, i.e. Wilks' lambda, Pillai's trace, Lawley-Hotelling trace and Roy's largest root were significant. This suggests that the null hypothesis of equal group centroid can be rejected. This was the case for both the overall ROP-Scale and all the subscales. All of the quantitative findings suggested that public and private sector physicians were differently responsive, and private sector physicians scored higher in the overall responsiveness score.

In qualitative observations, we found that consultation rooms in the public sector were shared by more than one physician, sometimes even with semi-qualified providers. Nobody maintained patient flow, nor was there a way to restrict entry of non-patient visitors (e.g. the pharmaceutical representatives, dalal¹ etc.). On the contrary, consultation rooms in private sector were better maintained; only the next patient in the line entered the room and waited till her/his turn came.

In IDIs with patients, some complained that lack of responsiveness was a general feature of physicians, irrespective of their practice setting. One patient said,

Interviewer: Are private sector physicians much better than public sector physicians then?

Respondent: Not 'much better', as they don't live up to my expectations regardless of setting. [IDI with a teacher, male, 45 years]

However, when probed further, patients identified private sector physicians to be more responsive overall. One FGD participant said,

There [in private sector] politeness of a doctor is bought with money; so there is no reason [for the doctor] to misbehave with me. [FGD participant, male]

According to patients, private sector physicians were more tolerant, polite, and courteous; they were also good with following-up with patients. However, patients also identified some shortcomings

Table 2. Characteristics of qualitative data collection: respondents and observation settings

IDI with public sector physicians	
Number	7
Gender	2 Females and 5 Males
Range of graduation year	1982–2009
IDI with private sector physicians	
Number	5 (2 of them retired from public sector, 1 was accepted in public sector and waiting to join, and only 2 had no linkage with public sector)
Gender	1 Female and 4 Males
Range of graduation year	1973–2013
IDI with clients	
Number	7
Gender	4 Females and 3 Males
Range of age in years	25–48 (Females: 25–45; Males: 45–48)
Range of level of education	Primary–Masters (Females: Primary–Honors; Males: Honors–Masters)
Types of occupation	Females: Homemaker, kindergarten and high school teachers; Males: High school teachers, businessmen
FGD with clients	
Number of sessions	4 (2 with Females, 2 with Males)
Number of participants	7–8 in each session
Range of age in years	19–72 (Females: 19–59; Males: 31–72)
Range of level of education	Primary–Masters (Females: Primary–Masters; Males: Primary–Honors)
Type of occupation	Females: College and high school teachers and custodial staff; Males: College and school teacher, retired government official, businessman, farmer
Observation	
Setting	2 settings: Public sector (consultation rooms in an Upazila health complex) and Private sector (consultation rooms in a for-profit private clinic and a not-for-profit NGO-clinic)
Duration	1 week in each setting

Table 3. Mean values of ROPs scale and subscale scores and their differences in public and private sector

Scale	Mean score of public sector ($n = 195$)	Mean score of private sector ($n = 198$)	difference of mean scores (public–private)	95% CI	P-value
Friendliness	–0.32	0.31	–0.63	–0.82, –0.44	<0.01
Respecting	–0.37	0.36	–0.73	–0.91, –0.54	<0.01
Informing and guiding ^a	–0.26	0.26	–0.51	–0.71, –0.32	<0.01
Gaining trust ^a	0.17	–0.17	0.34	0.14, 0.53	<0.01
Financial sensitivity ^a	0.12	–0.12	0.23	0.04, 0.43	0.02
ROP-Scale	–0.29	0.29	–0.58	–0.77, –0.39	<0.01

^aTwo sample *t*-test for unequal variance.

of private physicians too. Patients alleged that they prescribed more tests, and were reluctant to refer their patients to another physician for fear of losing business.

When seeking physicians' views, they were divided in their opinion, mostly along the line of their sectoral attachment and service experience. One of the two private sector physicians that solely worked in the private sector and had never been attached with public sector, strongly claimed private sector physicians were more responsive, giving examples of how prompt they were in providing services compared with public sector physicians. Another physician, who was a dual-practicing public sector physician, and was almost at the end of her public service career, said that there was nothing to praise or criticize one sector over the other, as the same physicians provided service in both settings, with equal lack of responsiveness. However, rest of the physician respondents, which included public sector physicians, and private sector physicians with links to public sector, denied private sector physicians to be more responsive than the public. They argued that provider treatment was the same in both the sectors and rationalized any potential difference due to the higher patient-load, lack of amenities, limited human resources, and

lack of proper health systems support found in the public sector. Second, according to some physicians, the difference in provider behaviour was due to personal variations, not their different settings. One young public sector physician said,

During the morning hours, it is extremely difficult to cover 300–350 patients by two or three physicians in government health centers. I wish I could tell a patient, suppose a patient with typhoid fever, that you have this disease, consequences can be such, you can even become disabled, etc. In government sector, one cannot tell so many things. But in private chambers, the patient is told these in detail. When a patient pays you, of course you would take better care of him. [IDI with a public sector physician, male, year of graduation 2004]

Our observations of patient consultations with physicians corroborated patient interview data. Private sector physicians were more courteous towards patients, spent more time on patients (mean consultation time 4.04 min in public and 6.02 in private), prescribed more diagnostic tests, and followed-up patients better. Our observations also supported some of the claims made by physicians. Public

Table 4. Multivariate regression of ROP-scale items on settings (public vs private sector) ($n = 393$ observations).

Variables	Mean difference (private–public)	95% CI	P-value
Subscale: friendliness			
Asking patient's name	0.47	0.33, 0.61	<0.01
Engaging in social talks	0.23	0.10, 0.35	<0.01
Asking about patient's family	0.18	0.04, 0.31	0.01
Friendliness	0.24	0.10, 0.38	<0.01
Giving courage and reassurance	0.43	0.31, 0.56	<0.01
Sense of humor	0.27	0.14, 0.41	<0.01
Subscale: respecting			
Greetings by doctor	0.32	0.21, 0.44	<0.01
Showing respect explicitly	0.16	0.06, 0.27	<0.01
Listening to patient's complaints completely	0.14	0.03, 0.25	0.01
Listening to patient's complaints attentively	0.16	0.04, 0.27	0.01
Examining the patient with care	0.47	0.32, 0.61	<0.01
Encouraging patient to ask questions	0.32	0.19, 0.45	<0.01
Listening attentively to patient's questions	-0.01	-0.14, 0.11	0.82
Taking leave by doctor	0.37	0.24, 0.49	<0.01
Non-verbal communication by doctor	0.33	0.21, 0.45	<0.01
Compassionately touching the patient by doctor	0.73	0.58, 0.88	<0.01
Subscale: informing and guiding			
Suggestions on disease prevention and health promotion in general	0.30	0.17, 0.43	<0.01
Facilitating follow-up	0.42	0.31, 0.54	<0.01
Quantity of issues explained and the quality of explanation	0.28	0.15, 0.42	<0.01
Quantity of issues explained	0.22	0.09, 0.34	<0.01
Asking patient if s/he understood the explanation	0.09	-0.05, 0.23	0.22
Explaining the cause of disease to the patient	0.13	-0.02, 0.29	0.09
Explaining the diagnosis of disease to the patient	0.23	0.08, 0.38	<0.01
Explaining the prognosis of disease to the patient	0.16	0.02, 0.30	0.03
Explaining the treatment to the patient	0.22	0.06, 0.39	0.01
Explaining the preventive aspects to the patient	0.25	0.10, 0.40	<0.01
Subscale: gaining trust			
Earning trust of patients	-0.11	-0.20, -0.02	0.02
Service oriented, not businesslike behaviour	-0.21	-0.32, -0.10	<0.01
Not using jargon	-0.05	-0.17, 0.08	0.45
Not being involved in illegal activities	-0.13	-0.23, -0.02	0.02
Subscale: financial sensitivity			
Considering socio-economic status of the patient	-0.22	-0.39, -0.06	0.01
Trying to understand socio-economic status of the patient	-0.13	-0.32, 0.05	0.15
Informing the cost of treatment/financial counselling	0.02	-0.10, 0.13	0.80
Providing financial assistance if needed	-0.21	-0.34, -0.09	<0.01

Note: The exact wording of the variables along with their response categories is available in [Supplementary material S1](#).

sector physicians faced higher patient-load (mean number of patients per Day 34.42 in public and 26.34 in private) and received less health system support. However, some observations did not match with patients' allegations; e.g. we did not find private sector physicians shying away from referring critical patients. Rather, we found public sector physicians to be more reluctant about referring. When probed, physician respondents from the public sector said, they were less inclined to refer patients, as most of them belonged to lower socio-economic group. These physicians feared patients might not be able to bear the financial burden of going to higher level health facilities.

Domain specific difference between responsiveness of public and private sector physicians

Although private sector physicians scored higher than public sector physicians in the overall ROP-Scale score, public physicians outperformed private ones in 'Gaining trust' and 'Financial sensitivity'. All

differences in mean score were statistically significant ([Table 3](#)). Further scrutinizing the MANOVA test results (multivariate regression), we identified specific items where each group did better or worse ([Table 4](#)). Finally, based on parallel discriminant ratio coefficients obtained through DDA, we identified the most important (i.e. accounting the most for the difference between the sectors) sub-scale in the ROP-Scale, and the most important item in each sub-scale. 'Respecting' subscale was the most important subscale of ROP-Scale. We did similar analyses with each subscale and identified in each of them the most important item, which are presented in the following section. The following section also examined qualitatively, which issues in respective domains might have driven the results.

Friendliness

Private sector physicians earned higher scores in all items, among which 'Giving courage and reassurance' was identified in DDA as the most important. Qualitative findings supported this finding. We observed, in asking patient's name, private sector physicians asked

and wrote on prescription scripts, while public sector physicians did not do so since the name was already written on the ticket². In terms of social talk, we observed this to be uncommon with physicians from both the sectors, although reported by patients to be practiced by private sector physicians. Friendliness, as understood through such gestures as remembering patients' name from a previous encounter, calling the patients in a friendly tone etc., was reportedly uncommon among physicians of both sectors. Concerning sense of humor, we observed some humorous moments in private setting, but not many in public, owing perhaps to the higher patient-load and less time per patient in the public sector. In giving courage and reassurance, we observed many physicians, both in public and private sector settings, saying at least one phrase expressing reassurance, e.g. 'you will be fine'. According to patients, giving reassurance was an important aspect of good communication skill of physicians:

Half of the disease is cured only by reassurance. [IDI with a teacher, female, 40 years]

Physicians too, in IDIs, admitted its importance, and were observed practicing it.

Respecting

In 'Respecting' subscale, the most important subscale according to DDA, private sector physicians scored higher except for the item 'Listening attentively to patient's questions' (difference not statistically significant). Among subscale items, 'Compassionately touching the patient by physician' was identified in DDA as the most important.

During qualitative data collection, we did not observe exchange of greetings by physicians in any sector, except for a few instances in the private. A closing salutation or formally taking leave (e.g. saying *Assalamu Alaikum, Khoda Hafez, stay well* etc.) was more common, again among the private sector physicians. In regards to showing respect to patients explicitly, patients said, physicians in general were not disrespectful, but there was no practice of expressing this explicitly. Physicians in both sectors were unanimous about the importance of respect, but one public sector physician pointed to the reciprocity of respect, which was supported by two other public sector physicians:

Patients would always speak ill of physicians. Breach of respect happens from both the sides. Physicians should respect, but it needs to come from patients too. [IDI with a public sector physician, female, year of graduation 1986]

One public sector physician also admitted off record that physicians, especially in the public sector often breached respect of patients. This was more frequent in the public sector, according to him, due to high patient-load there.

Patients expected physicians to listen to them completely, i.e. physicians should allow patients to finish what they want to say, and only then may turn to next steps, such as doing physical examinations, writing prescriptions, etc. We observed private sector physicians to be better performers in this regard. Regarding listening to patients' complaints attentively, we observed physicians in both the sectors to be attentive listeners. This explains our quantitative finding of non-significant difference between sectors.

We did not observe physicians encouraging patients to ask questions; which was confirmed by patients' interviews. Physicians also admitted that they did not particularly encourage their patients

through their gestures or verbal cues to ask questions. Patients expected physicians should not only listen attentively to their complaints, but also to questions they ask. Patients complained that physicians irrespective of sectors hardly listened to their questions attentively.

Regarding 'compassionately touching patients', which is the most important item in DDA, some private sector physicians were observed briefly touching patients' hand or holding their wrist to express empathy. Patients, on par with our DDA finding, put much importance on touch of physicians during examination or for giving reassurance and courage. Patients traditionally believed even the touch of a physician might have therapeutic significance. An elderly FGD participant said,

I don't know what science says, but we have been hearing since childhood that, half of the disease is cured only by mere touch of the doctor. [FGD participant, male]

Informing and guiding

Except two items 'Asking patient if s/he understood the explanation', and 'Explaining the cause of disease to the patient', where the difference was not significantly different, private sector physicians scored higher than public sector physicians across all items. 'Facilitating follow-up' was identified in DDA as the most important item.

Physicians should provide general health promotion and disease prevention-related information to patients, besides explanations and advice particularly related to their health condition. We observed that in both sectors, physicians usually discussed some disease prevention and health promotion measures specific to the disease, but not on general health promotion. In terms of follow-up, there was hardly any such mechanism in the public sector, as physicians came to health centres by rotation, and patients would not know when the same physician would come again. We observed there was no functional record-keeping in the public sector, so patients had to preserve the flimsy piece of prescription paper if they wanted to follow-up. In the private sector, however, we found physicians suggesting a follow-up visit quite frequently; and that this would cost half of the regular consultation fees. A senior private sector physician said that, it is important to assure the patient that follow-up would not incur similar expenses.

With respect to items involving the physician providing explanations about the disease, the prognosis or steps to be taken, patients blamed physicians in both the sectors for not providing any sort of explanation. One female client also mentioned the poorer and less educated people, who usually visited public health centres, received even less explanation:

This [not receiving proper explanation] is more common with rural poor people. In educated society, patients get to learn things from their doctor by asking. But the uneducated poor patients there [public sector health facilities] cannot talk like this with a doctor [hence do not get explanation]. [IDI with a teacher, female, 45 years]

Despite receiving relatively better explanation from private sector physicians, patients noted that they delegated the task of explaining to their assistants or pharmacists. Patients were unhappy with this and expected physicians themselves would explain the cause, seriousness, prognosis, treatment and preventive aspects. One female FGD respondent shared her story about a private sector physician,

They [physicians] just prescribe. If I ask what is the problem, they say, 'you won't understand'. Another problem with explanation is that, most of the times doctors give the prescription in the hands of their assistants to explain. This assistant only says, 'you have to buy these and these medicines', with a rough tone. [FGD participant, female]

Most physicians in both the sectors, despite acknowledging the importance of explanation, admittedly failed doing it, especially in public sector, due to higher patient-load. One young public sector physician attributed this tendency to receiving consultation fees from patients in private sector. Another young public sector physician, confessing their lacking in explaining properly, related it with the deficiency in the medical curriculum, and demanded more training on these issues both in medical colleges and in in-service training.

Patients also expected that physicians should ensure patients had understood explanations, since many patients were illiterate or were simply unfamiliar with basic human anatomy and physiology. Our observation in both these settings was congruent with patients' complaints that physicians never confirmed this. Physicians corroborated this finding through their IDIs.

Gaining trust

Contrary to the previous subscales, here public sector physicians scored significantly higher in all items, except in 'Not using jargon', where the difference was not statistically significant from the private sector physicians. 'Service oriented, not businesslike behaviour' was identified in DDA as the most important item.

Patients expected physicians to refrain from doing things that may breach trust, or render them as business-oriented, rather than care-oriented. Examples of such behaviours included: being asked to do tests from specified diagnostic centres, visit them privately (by public sector physician), moonlighting etc. Patients alleged frequent breach of trust, especially by private sector physicians. Patients most despised being advised to conduct diagnostic tests from specific centres, which, according to patients, was practiced by many private sector physicians. Although we did not observe such practices directly; we found diagnostic-advising pads supplied from local diagnostic centres on some private sector physicians' desk. Physicians allegedly received commission on the profit thus earned by these diagnostic centres.

As it was not clear from quantitative findings, whether public and private sector physicians were positively or negatively similar with regards to 'not using jargon', our qualitative findings were useful. In IDIs with physicians from both the sectors, they gave various examples of how they refrained from using jargons and used household languages. One female physician, who was almost at the end of her public service career said,

I absolutely talk in local tongue as I hail from here, I am not from outside. I know their local language and I use that, as they will not understand otherwise. For example, if I say 'you have urine infection', they will not understand'. Rather I say there is 'pu' (local term for pus) passing through your urine. [IDI with a public sector physician, female, year of graduation 1986]

Our observation conformed to her remarks, as we saw both public and private sector physicians using easy-to-understand terms with patients.

Another aspect of this domain is, 'Not being involved in illegal activities', examples of which included: bringing patients in own private clinics with help of dalals, accepting gift from pharmaceutical

representatives and prescribing substandard medicine etc. We observed representatives of local diagnostic centres frequently visiting the both public and private sector physicians' chambers. Many patients vehemently objected to the intimacy between physicians and pharmaceutical representatives. Although we did not observe any illegal exchanges between them, we found physicians in both the sectors using pharmaceutical representatives' bikes for rides, asking for free samples of medicines for personal use, etc. We observed in a private clinic, a dalal receiving money in exchange of enticing away a patient from another clinic. Physicians' involvement in this incident was out of scope of our observation, nevertheless these types of issues contributed to the suspicion and mistrust of patients against physicians, especially in the private sector.

Financial sensitivity

Public sector physicians scored higher, except in, 'Trying to understand socio-economic status of the patient', and 'Informing the cost of treatment', where the difference was not statistically significant. 'Providing financial assistance if needed' was identified in DDA as the most important item.

Patients shared various stories, mostly from the private sector, about being financially harassed by physicians. A patient complained,

Our doctors often prescribe an injection costing TK2100 (approximately \$27) to a day laborer who hardly earns TK150 (approximately \$2) per day. Is it possible for him to buy this injection? Our doctors never see these. [IDI with a teacher, female, 45 years]

It was commonly observed in the public sector that physicians were asking patients directly about their ability to buy some medicines. However, in the private sector, this was not the case; rather, a private sector physician expressed his skepticism over patients' inability to pay:

Not everyone pays; they don't pay even if they can pay. In this country, patients spend much more money talking over mobile phones than the amount of money they pay to rural based doctors. [IDI with a private sector physician, male, year of graduation 1989]

In regards to informing patients about costs of treatment, physicians in both sectors performed rather poorly, as understood from both our observation and interviews with patients. Patients reported that sometimes physicians even misbehaved if patients asked about the price of a medicine. We observed some patients in both sectors being very confused with receiving the treatment, as they did not have any idea about the price of the medicine. Physicians suggested patients should learn it from pharmacy, but patients needed to make a decision right away. They waited the whole day to visit the physician; now they were at a loss as to whether to leave the queue and return after learning the cost from nearby pharmacy. Physicians that we interviewed did not consider financial counselling as their responsibility. They also confessed losing temperament when being asked about price of medicine by a patient.

As a way of providing financial assistance in need, we found public sector physicians providing free medicines from the government health centres upon availability. A public sector physician said, they often could not provide financial support due to absence of such mechanism, but they allowed patients some time to arrange

some money and come again. They also avoided expensive diagnostic tests; we hardly saw any physician prescribing a test in public sector. A young physician said,

Yes, of course we consider patients' financial capabilities. Most of the people coming to government hospitals are poor. We know that and we feel for them too. So, a prescription with unnecessary tests for them will never come out of my hand. [IDI with a public sector physician, male, year of graduation 2004]

Whereas in the private sector, a patient described how he saw an elderly person being refused by a physician to receive concession on treatment:

Last week I saw an elderly man requesting a [private sector] doctor to take TK100 (approximately \$1.3) as fee, instead of TK150 (approximately \$2). Doctor replied, 'when you go to police station you don't mind paying [bribe], it is only with the doctors when you become a miser. [IDI with a teacher, male, 46 years]

Discussion

Although patients reported that both public and private sector physicians' level of responsiveness was suboptimal; private sector physicians scored statistically significantly higher in the overall ROP-Scale, but public sector physicians outperformed them in domains 'Gaining trust' and 'Financial sensitivity'. This research also revealed the most important responsiveness domain (Respecting), and the most important item in each domain: 'Giving courage and reassurance' (Friendliness), 'Compassionately touching the patient by physician' (Respecting), 'Facilitating follow-up' (Informing and guiding), 'Service oriented, not businesslike behaviour' (Gaining trust) and 'Providing financial assistance if needed' (Financial sensitivity).

A recurring theme in qualitative findings related to 'Friendliness', 'Respecting' and 'Informing and guiding' domains, where public sector physicians scored lower than private sector, was higher patient-load and consequent less time per patient. Our quantitative data also supports this notion (see mean number of patients and mean consultation time in Table 1). Restricting the number of patients per day for physicians (Dugdale *et al.* 1999), improving the skill-mix to harness clinical support from auxiliaries (e.g. nurses, paramedics etc.) (Sinsky *et al.* 2013), instituting a minimum average consultation length (Hasanpoor *et al.* 2015) etc. can be options to consider for resolving this.

Private sector physicians' lower score in the 'Gaining trust' domain is consistent with the arguments of Bloom *et al.* (2008) that absence of strong regulatory (Bennett *et al.* 1997) and mediatory mechanisms in low- and middle-income countries may create the grounds for decreased trust in private sector. Strong regulatory and mediatory mechanisms are therefore recommended in Bangladesh, a country with burgeoning private sector (Ahmed *et al.* 2013). Private sector physicians' lower score in 'Financial sensitivity' may be explained by the fact that, public health service is free of cost, while proportion of out of pocket expenditure is 67% of the total health expenditure and 92% of private health expenditure (The World Bank 2014). With an almost non-existent prepayment based health financing mechanism, GoB needs to strive for one, targeting Universal Health Coverage.

Finally, our qualitative findings highlighted that, the overall ROPs irrespective of sectors, failed to meet the clients' expectations. Despite recent developments, the medical curriculum still lacks adequate training focusing on responsiveness. Literature abounds on

the importance and effectiveness of such trainings (Roter *et al.* 1998; Ammentorp *et al.* 2007; Junod *et al.* 2009; Ha *et al.* 2010). Physicians either during medical studies or in-service should receive training on responsiveness.

Many of our findings are in alignment with other studies from Bangladesh and elsewhere. For example, a comparative study between public and private hospitals, found private hospitals scoring higher in some variables relevant to our study, e.g. being courteous, answering questions, providing explanations (Andaleeb 2000b). The issue of breach of trust by various means such as collusion of physicians with pharmaceutical representatives was elaborately discussed in a recent study (Mohiuddin *et al.* 2015). Our finding of lack of overall responsiveness in Bangladeshi health care settings was also supported by quantitative (Andaleeb 2000a,b) and qualitative ethnographic studies (Zaman 2004).

One of the limitations of our study could be the application of a structured observation method, which is susceptible to Hawthorne effect. In order to minimize this, we observed the 11th patient, allowing the first 10 as 'washouts' (Leonard and Masatu 2006). Second, this study took an aggregated view of the different types of private sector providers- the for-profit and not-for-profit (or NGO), the responsiveness of which might be dissimilar. Third, the sample of female FGD participants, owing to their being selected from educational institutions, had higher level of education than the general populace. Therefore, their expectation from the service providers and perceptions thereabout might differ too.

This study was conducted in rural setting; but the urban settings are very different with different power structure between service seekers and providers; different level of educational, financial, and social status of the clients; and very different health systems support structures for the service providers. Therefore, both the ROP-Scale and the study cannot be generalized to urban areas or other countries. The private sector of Bangladesh in urban settings has prominent presence of formal sector, whereas the rural settings have a more prominent informal sector. Therefore, separate studies should be done in urban settings with similar objective of comparison between sectors. Comparative studies should also be done with different groups of HRH, e.g. informal providers, nurses, community health workers, semi-qualified providers; and different settings, e.g. inpatient, emergency, delivery ward, maternity ward etc. Also, our study did not examine how the same provider performed, or how their perceptions regarding responsiveness varied when they served in a public sector versus when they did in private. This would be an important and interesting issue to revisit in the context Bangladeshi health system, where dual-practice is permitted.

Conclusion

Although few studies measured HRH responsiveness (Coulter and Jenkinson 2005; Pongsupap and VanLerberghe 2006b; Lutwama *et al.* 2012; Rodriguez *et al.* 2012), none compared the responsiveness of public and private sector physicians in general or decomposed across different aspects of responsiveness. In this study, we found, that although the private sector physicians outperformed public sector physicians in most responsiveness domains, private sector physicians also have scopes for improvement in 'Gaining trust' and 'Financial sensitivity'. Qualitative findings also indicate that, physicians from none of these sectors are performing optimally in terms of responsiveness. This domain-specific understanding of responsiveness can allow policymakers to develop more targeted

interventions. For example, to improve 'Friendliness', 'Respecting' and 'Informing and guiding'—health systems support and training of physicians may be helpful. Improvement in 'Gaining trust' may require improved regulatory and mediatory mechanisms. 'Financial sensitivity' warrants training of providers as well as policy reforms favouring prepayment-based health financing options. In addition, informed by the domain specific findings, physicians can reshape their consultations to become more responsive physicians; managers can guide their employees to achieve better satisfaction of patients visiting their health centres; and medical educators can train students to be more responsive physicians.

Supplementary data

Supplementary data are available at *HEAPOL* online.

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Notes

1. Brokers of private diagnostic centers and clinics, who roam around the public sector health facilities to entice the rural patients to the private diagnostic centers and clinics.
2. A piece of paper purchased by the patients from the health facility, name and age of the patient is written on it by the person in charge of selling it, and physicians write prescription on this article only.

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