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Contracting urban primary healthcare services in Bangladesh – effect on use, efficiency, equity and quality of care

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Abstract

OBJECTIVE To evaluate a large, ongoing effort to improve urban primary health care (PHC) in Bangladesh through expansion of publicly funded urban health facilities and contracting with partner non-governmental organisations (NGOs).

METHODS A part of Chittagong was assigned to a contracted NGO while the other parts of the city were contracted to the local government. Performance was assessed by baseline and follow-on household surveys, an endline health facility survey and routinely collected data.

RESULTS The results of a health facility survey indicated that overall quality of care was better in the NGO area, and routinely collected data showed that the NGO provided many more services *per capita*. Based on household survey data, the NGO area of Chittagong was poorer and had lower coverage at baseline. There were significant improvements in both government and NGO-run areas. However, larger improvements were observed on some coverage indicators in the NGO area compared to the government area. Improvements in coverage among the poorest 50% of the population were greater in the NGO-run area. The cost per service delivered was 47% lower in the NGO area.

CONCLUSIONS Investments in urban PHC led to an improvement in the coverage of basic services. Contracting with an NGO had an additional effect in terms of improving coverage, equity, quality of care and efficiency. Increased investments in PHC facilities and contracting with NGOs may be effective in improving urban health services.

keywords urban health services, urban primary health care, contracting health services, contracting with NGOs, NGO service delivery

Introduction

There has been substantial controversy over the benefits and costs of government contracting with non-governmental organisations (NGOs) or other non-state providers for the delivery of publicly financed health services. Some reviewers (Slack & Savedoff 2001; Loevinsohn & Harding 2005) have concluded that contracting provides an effective way for governments to quickly improve the provision of important health services. Other reviewers (LaGarde & Palmer 2009) believe that the amount and quality of the evidence is insufficient to know whether contracting actually works. Another recent review (Liu *et al.* 2008) concluded that while contracting has increased access to services, less was known about its effect on equity, efficiency and quality. All reviewers have pointed out the need for additional studies of contracting for service delivery.

We report here the experience in an urban area of Bangladesh where a large-scale contracting effort has now been underway for over a decade. This study has the advantage of allowing for a comparison of internal contracting between the central government and a local government and contracting with an NGO for the provision of primary healthcare services. It assessed performance over time of the two approaches in terms of utilisation and coverage, quality of care, financial efficiency and the ability to reach the poor. Other studies have generally compared contracting with NGOs to standard government provision. We also address the provision of services in an urban setting.

In Bangladesh, as elsewhere, urban health services had attracted little attention, based on a belief that urban areas had better health outcomes and better coverage of services. While gross comparisons of rural and urban areas would support this belief (Table 1, columns 2 and 3), closer

Table 1 Urban and rural health indicators by income quintile based on the 1999–2000 Demographic and Health Surveys*

	Overall		Poorest quintile		2nd poorest quintile		3rd Quintile	
Parameter (1)	Rural (2)	Urban (3)	Rural (4)	Urban (5)	Rural (6)	Urban (7)	Rural (8)	Urban (9)
Under five mortality rate (per 1000)	112.7	96.5	138.4	NA	124.4	149.4	102	131.9
Prevalence of fever in the last month (%)	37.1	37.6	39.4	45.0	36.7	38.7	34.8	37.9
Skilled birth attendance (%)	8.0	33.0	3.2	8.6	4.6	8.1	5.9	11.2
Pre-natal care (%)	28.0	58.7	19.1	25.6	20.6	30.0	26.3	38.8
Full Immunisation coverage (%)	58.6	69.6	50.5	NA	55.1	54.3	60.9	59.8

*Source: Gwatkin *et al.* (2007).

analysis reveals that the urban poor had worse health outcomes than the rural poor and little advantage in terms of access to health services (Gwatkin *et al.* 2007; Table 1). The overall differences between rural and urban areas in Bangladesh were almost entirely due to the advantages enjoyed by the upper two income quintiles.

Urban populations are growing rapidly everywhere and Bangladesh, for example, is expected to be 48.7% urban by 2040 (UN Department of Economic and Social Affairs, Population Division 2010). Cities have very heterogeneous populations in terms of income and living conditions, presenting unique challenges for publicly provided health services. The poor are often difficult to identify, and although some live in slums, even more do not (Montgomery 2009). Regardless, they face difficult health conditions. Urban areas exhibit environmental factors, such as crowding, poor ventilation and pollution that expose city-dwellers to greater risks (Montgomery 2009). Thus, governments face a difficult challenge in ensuring that sufficient public resources are deployed effectively and efficiently to improve the health of the urban poor.

Prior to beginning the initiative described here, there were a number of problems with publicly provided services in Bangladesh. One study (Aldana *et al.* 2001) found that quality of care in public facilities was poor (only 29% of patient–provider interactions involved any physical examination) and client satisfaction was low. Another study (Chaudhury & Hammer 2004) found that absenteeism among public sector doctors was 42% while another (Nahar & Costella 1998) found that supposedly free health care usually involved significant informal payments (a normal delivery cost on average $32 in public facilities in Dhaka).

In response to the poor health conditions of the urban poor and the lack of coherent urban health services, the Government of Bangladesh, and the city corporations that govern the large cities, developed a plan (financed by the government, the Asian Development Bank and other development partners) to improve urban primary health care (PHC). The first phase of the initiative, from 1999 to 2004, covered much of the four largest cities in Bangladesh: Dhaka, Chittagong, Khulna and Rajshahi. The new approach included the establishment of new facilities including: (i) comprehensive reproductive healthcare centres (CRHCCs) that were to provide a broad range of services including obstetrical care (normal deliveries and Caesarian sections), (ii) primary healthcare centres (PHCCs) to provide curative and preventive services, and (iii) outreach sites meant to bring preventive and promotive/educational services closer to slum-dwellers and the non-slum poor. In addition, the new approach involved contracting with NGOs to deliver the PHC services based at these facilities.

The cities were divided into partnership agreement areas (PAAs) of about 500 000 population, each of which was meant to comprise one CRHCC and several PHCCs with associated outreach sites. PAAs were contracted out to NGOs using a competitive bidding process. Contractors were selected based on their experience delivering PHC, the quality of their technical proposals, the experience and skills of their key managers, and the bid price. Eleven NGOs were selected for fourteen PAAs at an average price of US $0.64 *per capita* per year. Of the eleven NGOs selected, nine were national NGOs while the remaining two were national affiliates of international NGOs. Additionally, two PAAs were allotted to Chittagong City Corporation (CCC).

The terms of reference in the contracts called for the NGO or CCC to deliver a basic package of curative, preventive and promotive services that reflected the priorities of the Government. The contracts included nine specific indicators of success (such as immunisation coverage and skilled birth attendance) although payment was not directly linked to them, and explicitly mentioned that provision of services to the poor was a priority. Contracts

could be terminated for overall poor performance and a bonus system based on a complex formula using achieved service coverage rates was described in the contract. The NGOs were free to recruit their own staff, set their salaries and determine their working conditions. CCC used government staff, but was able to transfer out staff that did not perform up to expectations. The procurement of drugs and equipment was done directly with approved pharmaceutical and equipment companies for NGOs and through standard government procedures for CCC. NGOs and CCC were paid based on reimbursement of documented expenditures rather than on a lump-sum basis.

Data and methods

The CCC indicated in meetings attended by two of us (DN and BL) that it preferred to deliver services itself in most of the city rather than contract with NGOs. Two of the three PAAs in Chittagong were thus given to CCC to manage and, the third was competitively awarded to a national NGO called Mamata. We take advantage of this situation to compare an internal contract between different levels of government to a contract with an NGO. The intention was that CCC would be given the same *per capita* budget as the NGO and benefit from the same level of facility construction. As can be seen in Table 2, the availability of physical infrastructure was similar in CCC and Mamata areas and the NGO area appears to have been slightly poorer.

Cross-sectional data were obtained from two household surveys that were carried out in the three PAAs in Chittagong, the first in 1999 and the second in 2004. Samples were selected using a multistage stratified cluster sampling design. Survey teams consisted of one male supervisor, one female supervisor, four female interviewers and a logistical assistant. Household surveys included questions on socio-demographic background household information, use of services and knowledge regarding health issues. Ever-married women aged 15–49 were interviewed, and information was collected on use of services by them and their children. Additional information can be found in project documents (Seraji *et al.* 2000; Islam *et al.* 2004).

The surveys employed an asset index to classify households as to whether they were in the poorest half of the population (50th percentile or below). The initial baseline survey did not include sufficient numbers of poor households to separately provide robust estimates of coverage rates, so an additional sample of poor households was taken. Estimates of coverage rates for the poorest 50% of the population and the whole population (but not the wealthiest 50%) are thus available from the baseline and final surveys. The total number of households sampled at baseline was 380 in the NGO area and 1377 in CCC areas; in the final survey there were 767 and 1501 households, respectively. The poor sample included 185 households in the NGO area and 747 in CCC areas at baseline including the additional sample. There were 375 and 659 poor households, respectively, from the final survey.

Table 2 Comparison of Chittagong City Corporation (CCC) and non-governmental organisations (NGO) catchment areas in Chittagong

Parameter	CCC areas	NGO area
Estimated population, 2000	1.839 Million	0.452 Million
Number of project-financed health facilities (PHCCs & CHCCs)	27	7
Population per project-financed health facility	68 126	64 513
Percentage of population in poorest income quintile (1999 survey)	17	27
Proportion of mothers with no schooling (1999 survey) (%)	42	57
Average age of female respondents in years (1999 survey)	28.2	28.7

In order to assess the quality of care, a health facility survey was conducted in all PHCCs and CRHCCs near the end of the project in 2004 and in one randomly selected outreach centre per PHCC. Teams of 2 doctors and one non-medical assistant conducted the survey (Mitra and Associates 2004). In each CRHCC and PHCC, one doctor was interviewed, and in every health facility, one paramedic and one behaviour change communication (BCC) worker was interviewed, if available. In total, 34 doctors, 63 paramedics and 63 BCC workers were interviewed.

In order to analyse the large amount of data coming from the health facility survey, two approaches were used. First, for some indicators, the simple difference in percentages between CCC and the NGO were assessed using the non-parametric Kruskall–Wallis test of significance. Secondly, summary 'scores' were created after the data had been collected, but before it had been analysed, that combined individual measures to get a broader view of the nature of the services. The components included in each 'score' are presented in Table 3. (The exact definitions of the summary scores are available from the authors.)

Table 3 Facility scores and their individual components

Score	Components of the score
Infrastructure	Percentage of facilities with: Visible publicity signs, clean premises, electricity, running water, working phone, proper bio-waste disposal
Services	Percentage of facilities offering: Family planning, treatment of sexually transmitted and reproductive tract infections, condoms for STIs, HIV/AIDS services, antenatal care, post-natal care, treatment of acute respiratory infections, treatment of diarrhoea, tuberculosis testing and/or treatment, immunisation, growth monitoring, preventive nutrition services and breastfeeding counselling, services for violence against women, laboratory tests, and emergency services at all hours
Outreach programmes	Percentage of programmes and services offered: Health education/counselling, family planning, immunisations, growth monitoring, treatment of sick children, treatment of STD/STI, treatment of TB, vitamin A supplementation, early pregnancy detection and entry to ANC, detection of high-risk pregnancy, home visits, distribution of iron-folate tablets, post-partum care
Equipment	
Drug supply score	Average per cent of the following essential drugs available: Phenoxymethyl Penicillin tablets or syrup, Benzathine Penicillin, Ampicillin capsule or syrup, Cotrimoxazole tablets or syrup, Quinine injectable, Methyldopa, Diazepam, Tetracycline eye ointment, Iron/folic acid tablets, IV solution (Cholera saline, Ringer's lactate or glucose), Vitamin A, ORS, BCG vaccine, DPT vaccine, Polio vaccine, Measles vaccine, Tetanus toxoid, Hepatitis B vaccine, water for injection
All essential drugs available	Percentage of facilities where all essential drugs were available on the day of the visit
All family planning methods available	Percentage of facilities where all the following family planning methods were available on day of visit: Oral contraceptive pills, IUD, Condom, Depo-Provera or other injectable
Training and experience (providers)	Percentage of healthcare providers: (i) with maternal and child health experience prior to the project, (ii) had worked at the same location prior to the project; (iii) providers who had attended a training since graduation The average: (i) number of years (as a percentage of the maximum, truncated at 10) since graduation, (ii) number of trainings (as a percentage of maximum within each provider category) attended by providers, and (iii) percentage of trainings attended that occurred within the last year and deemed 'sufficient to do one's job'
Treatment knowledge of doctors	Average percentage of correct responses for a series of vignettes on the appropriate management of: (i) a sexually transmitted infection, (ii) pneumonia, (iii) pneumonia in a young child, (iv) shigellosis, (v) cholera, (vi) a child with severe dehydration, and (vii) a woman presenting with a typical reproductive tract infection
Knowledge of referral signs, symptoms, and ORS	Doctors: average knowledge on: (i) signs known to indicate referral to a higher facility for a pregnant woman, (ii) ways known to prevent sexually transmitted infections (STI), (iii) questions to determine whether someone has an STI, (iv) symptoms known to diagnose STI, (v) signs for referral of a child, and (vi) were able to name three signs for child referral. Nurses/midwives: average knowledge on: (i) signs known to indicate referral to a higher facility for a pregnant woman, (ii) ways known to prevent STI, (iii) symptoms known to diagnose STI, (iv) child referral signs known, (v) danger signs named for acute respiratory infection (ARI), (vi) danger signs named for diarrhoea, (vii) how to make oral rehydration solution (ORS), and (viii) how long mixed ORS lasts. Health educators: average knowledge of: (i) signs known to indicate referral to a higher facility for a pregnant woman, (ii) ways known to prevent STI, (iii) danger signs named for ARI, (iv)danger signs named for diarrhoea, (v) how to make ORS, and (vi) how long mixed ORS lasts
Knowledge of family planning	Percentage of providers that: (i) mentioned only temporary methods for spacing births, (ii) mentioned at least one permanent method for limiting births; plus average percentage of, (iii) temporary methods named for spacing, (iv) permanent methods (of two) named for limiting, (v) appropriate questions identified to determine recommendations for contraceptive methods, and (vi) appropriate information mentioned to provide to new contraceptive users
Knowledge of immunisation schedule	Knows the age range a child should be vaccinated with: BCG, DPT, Measles and knows the number of contacts required to fully vaccinate a child with the above vaccines if started at the age of 2 months

Table 3 *(Continued)*

Score	Components of the score
Supervisory visits	Average number of supervisory visits in last 6 months
Supervision and Work environment	Average of supervision and work environment
Supervision	Average percentage of max score (10) for: Frequency of visits: no visits (0), less than monthly (1), monthly (2), bi-weekly (3), weekly (4), twice a week or more (5) Supervisory activities undertaken (1 point each) for: observed activities, checked records, updated staff, discussed problems, provided feedback
Work environment	One minus the percentage of the following problems in doing job that were mentioned: (i) staff shortage, (ii) lack of supplies, (iii) lack of training, (iv) lack of support, (v) no time, (vi) lack of patient utilisation, (vii) no feedback, (viii) no transportation, (ix) low motivation, (x) patients unmotivated, and (xi) bad work environment

The mean value of coverage rates was calculated for CCC and Mamata areas. The double difference – the difference between Mamata and CCC of the change from baseline to final survey – was then calculated and a *z*-test used to determine statistical significance using a modified 'inteff' command in STATA (Ai & Norton 2003; Norton *et al.* 2004). Additionally, a multivariable regression was conducted that controlled for household wealth, mother's level of education and mother's age.

Results

The health facility survey carried out in 2004 showed significant differences in the ability of the health facilities to deliver PHC services (Table 4). The NGOs' facilities were more likely to have working equipment, essential drugs and the necessary infrastructure. They also delivered a greater variety of PHC services. When it came to knowledge of the health workers, the differences between the NGO and CCC facilities were smaller, but achieved statistical significance on 2 of 4 scores. NGO facilities received considerably more supervision than did CCC facilities.

As can be seen in Table 5, there were substantial improvements in the coverage of important PHC services in Chittagong from 1999 to 2004. CCC areas saw an average increase in coverage of key interventions of 8.6 percentage points over the life of the project. The NGO (Mamata) achieved even greater improvements in coverage for seven of the nine key health services measured in the household survey. On the seven indicators in which the NGO achieved greater improvements, the double differences were statistically significant for 2. Improvements were greater in CCC areas for skilled birth attendance and vitamin A coverage, but neither of these double differences was statistically significant. When differences in socio-economic status were controlled for using regression analysis four of the nine double differences were statistically significant, all in favour of the NGO.

Table 4 Quality of service provision*

Parameter	CCC	NGO
Ability to Provide Services		
1. Infrastructure Score (% of facilities with appropriate infrastructure)	64	77
2. Service Availability Score (% of services provided in PHCCs, CHCCs, and outreach sites)	70	97†
3. Outreach Services Score (% of contracted services provided at outreach sites)	73	95†
4. Equipment Score (% of recommended equipment functioning on day of visit)	41	91†
5. Drug Supply Score (Average% of essential medicines present on day of visit)	42	94†
6. % of facilities with all essential medicines available at day of visit	4	46†
7. % of facilities with all appropriate family planning supplies present on day of visit	0	69†
Knowledge and Experience of Staff		
8. Training and Experience Score (years of experience and amount of in-service training)	48	62†
9. Treatment Knowledge of Doctors Score (% mentioning key signs & symptoms)	70	73
10. Referral Knowledge Score (% mentioning danger signs needing referral)	59	69†
11. Family Planning Knowledge Score (correct responses to client vignettes)	67	76†
12. Knowledge of Immunisation Schedule	66	76
Supervision		
13. Average number of supervisory visits in the last 6 months	7.0	13.7†
14. Supervision and Work Environment Score	61	73†

*Detailed definition of scores is provided in Table 3.
†Significant at $P < 0.05$ by Kruskal–Wallis test.

Table 5 Household survey results for the entire population in non-governmental organisations (NGO) and Chittagong City Corporation (CCC) catchment areas (differences in percentage points) (1999–2004)

Parameter	CCC baseline	NGO baseline	CCC endline	NGO endline	Double difference in percentage points	Double difference controlling for socio-economic factors†
Fully immunised child, coverage (%)	65.9	53.2	75.9	74.7	11.5	21.6**
Vitamin A coverage (%)	78.7	73.8	85.6	75.3	−5.5	−5.5
% of parents obtaining treatment for ARI if child had symptoms in the last month	73.1	71.1	75.6	88.5	17.4**	15.1**
% of parents obtaining treatment for diarrhoea if child had symptoms in the last month	50.8	41.8	58.1	55.1	6.0	3.6
% of mothers able to spontaneously name three methods of modern family planning	66.5	60.1	78.4	85.1	13.2	14.4**
Pre-natal care coverage (%)	61.3	46.8	81.3	82.9	16.0	12.4
Contraceptive prevalence rate (%)	53.8	42.6	58.4	63.2	15.9*	14.3*
Tetanus toxoid 2+ coverage (%)	79.3	76.7	76.8	76.9	2.8	4.1
% of deliveries with skilled birth attendance	25.5	25.5	42.3	29.8	−12.5	−9.2
Average	61.7	54.6	70.3	70.2	7.2	7.9
Median	65.9	53.2	75.9	75.3	11.5	12.4

†Controlling for wealth (poorest half of population), mother's/woman's education (none, primary, secondary or higher) and mother's/woman's age.
*Significant at $P < 0.1$.
**Significant at $P < 0.05$.

Table 6 Efficiency and costs of Chittagong City Corporation (CCC) and non-governmental organisations (NGO) services

Parameter	CCC	NGO
Average cost per outpatient visit (US$)	1.92	1.02
Budget *per capita* per year for assigned area (US$)	$0.45	$0.61
Total expenditure as per cent of available budget (burn rate)	61.3	82.5
Actual expenditure *per capita* per year (US$)	0.27	0.51

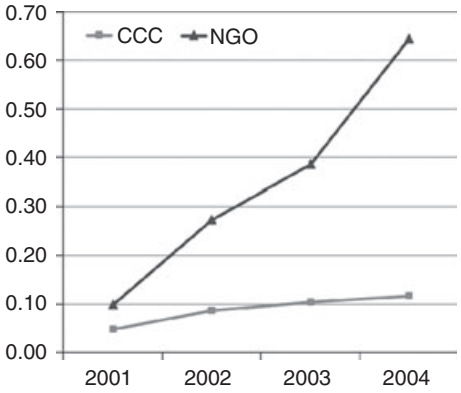

Figure 1 Patient visits *per capita* over time in non-governmental organisations (NGO) (Mamata) and Chittagong City Corporation (CCC) facilities.

The endline household survey found that, compared to the CCC, parents in the NGO area of Chittagong showed greater increases in their likelihood of seeking curative services (Table 5). Data from the health management information system (HMIS) indicate that the NGO significantly increased the number of outpatient consultations it provided *per capita* (Figure 1). The NGO and CCC facilities saw few patients at the beginning of the contract period, but this changed quickly in NGO facilities, whereas the increases in CCC facilities were modest.

The changes from the baseline to follow-on household surveys for key coverage indicators are shown for the population as a whole in Figure 2 and for the poorest half of the population in Figure 3. Except for the coverage of pre-natal care, it appears that the better-off saw a greater improvement in the coverage and use of services as compared to the poor in both NGO and CCC areas. Nonetheless, the poor in the NGO area of Chittagong still experienced greater improvement in the coverage of services compared to the poor in CCC areas, with the exception of skilled birth attendance and vitamin A supplementation.

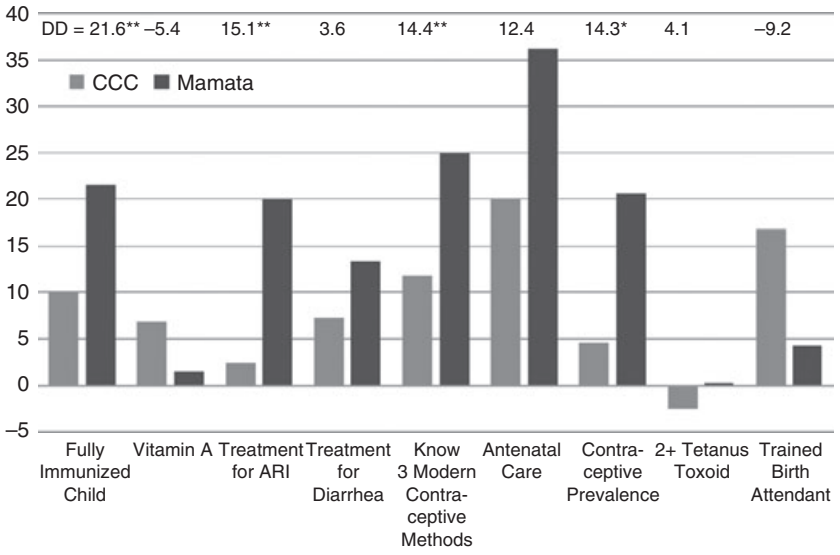

Figure 2 Among entire population – changes from baseline to endline (in percentage points) on coverage of key services in Chittagong City Corporation (CCC) and non-governmental organisations (NGO) (Mamata) areas.

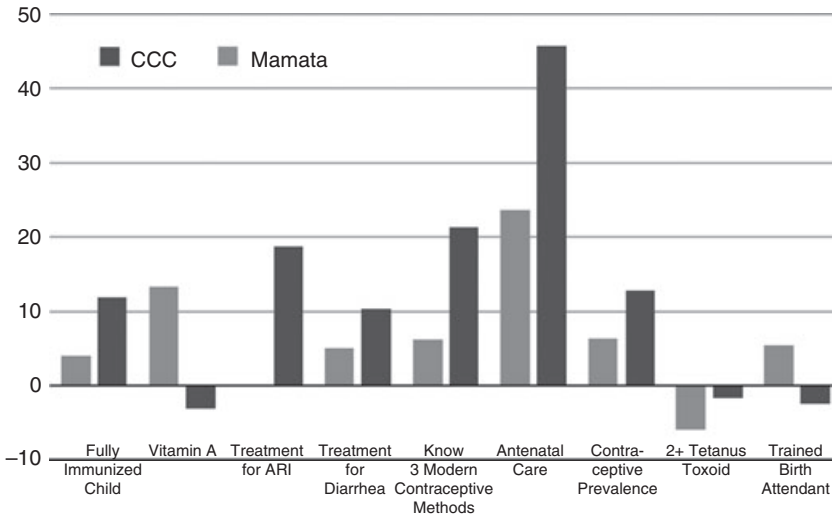

Figure 3 Among poorest half of population: changes from baseline to endline (in percentage points) in coverage of key services in non-governmental organisations (NGO) (Mamata) and Chittagong City Corporation (CCC) areas.

There are a few ways of calculating the efficiency and costs of the services provided by CCC and the NGO. Mamata provided care at 47% lower cost per patient seen compared to CCC-managed clinics (see Table 6). While the intent was to keep the budget of CCC and the NGO similar, in practice the NGO had a 36% larger budget *per capita*. However, the NGO saw many more patients (Figure 1). It also demonstrated greater absorptive capacity as it was also able to use more of its budgeted resources than CCC (82% *vs*. 61%).

Discussion

There are important methodological limitations that should be kept in mind when interpreting the results of this study. The areas were not randomly assigned to

NGO or CCC management, and there were potentially important differences at baseline that could have influenced the results. The NGO area had lower baseline coverage rates and was poorer, which could have made the NGO's job more challenging. However, it is equally possible that starting from a lower baseline made it easier for the NGO to increase coverage. (It should be noted that the CCC itself decided where the NGO should work.) The relatively small sample sizes of the household surveys in the NGO area resulted in a lack of power, so that at least two double differences that may have been programmatically important did not reach statistical significance. Another issue is that patients in cities can easily utilise services provided by organisations working in other parts of the cities. It is possible that people in CCC catchment areas actually took advantage of the NGO's services or *vice versa*. The size of this problem is unknown. However, if this occurred, the issue likely affected the NGO more because they saw more patients than the CCC and therefore the results would have been biased towards the null hypothesis. Finally, because the comparison is between one NGO and one city corporation, the results may not be generalisable.

Keeping in mind the methodological limitations of the study, it appears that investments in PHC infrastructure were successful in improving service delivery as most service coverage rates improved over time. There was an additional benefit from contracting with an NGO. Overall, the NGO-managed area of Chittagong performed better in terms of increasing coverage and quantity of services, quality of care, efficiency and equity. The NGO achieved slightly larger improvements in the coverage of most PHC services than CCC, and a much larger improvement in the volume of patients seen. The NGO provided a higher quality of care as judged by the availability of key inputs and services and the knowledge of the NGO staff appears to have been slightly better. The NGO also delivered services more efficiently than CCC based on the cost per service provided or considering absorptive capacity ('burn rate'). A common concern about contracting with the private sector is that equity can be sacrificed for gains in efficiency. This was not an issue in this case. Although better-off people received more benefits in both CCC- and NGO-managed catchment areas, the poor in the NGO area experienced larger improvements than the poor living in CCC-managed areas.

A potentially important factor affecting the performance of both Mamata and the CCC was the presence of proximate competition. The extent to which this mattered is difficult to ascertain although project documents indicate that Mamata was one of the better-performing NGOs. The CCC staff were motivated to demonstrate their ability to perform as well as or better than the NGO, since they had argued for managing a larger area of Chittagong. One important difference to note is that Mamata was under a real threat that poor performance would lead to non-renewal of their contract while the CCC did not face such a risk.

While Mamata may have been more motivated, it is also useful to look at how they achieved somewhat better results. The largest observable differences, in terms of processes, between Mamata and the CCC were supplies of drugs and family planning commodities, provision of a wider array of services and frequency of supervision. The NGO carried out twice as many supervisory visits to health facilities as did CCC managers. In a somewhat more speculative vein, interviews with various stakeholders suggested that the NGO enjoyed: (i) greater flexibility in re-allocating budgets where funds were needed, which gave them more absorptive capacity, (ii) a simpler decision-making process, and (iii) greater flexibility in regard to management of human resources. In addition, CCC used standard government procedures for procurement of drugs and equipment, while the NGO procured them directly through approved suppliers, which may have improved the NGOs ability to maintain drug supplies.

The NGO benefited from a *per capita* budget that was 36% higher than CCC's. While this could have made a difference, it is worthwhile to keep in mind that: (i) the NGO delivered considerably more services *per capita* and, per patient served, spent less, (ii) neither the NGO nor CCC spent their available budgets although the latter spent only 61% of its available funds, and (iii) the difference in the budgets, \$0.16 *per capita* per year, was a small proportion (1.5%) of total health expenditures in Bangladesh in 2002 (Health Economic Unit, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh).

The reasons why the NGO was better in reaching the poor are uncertain. Better availability of drugs, a wider variety of services and better organised outreach services may have contributed to the difference. The NGO also carried out a mapping/registration effort and maintained closer ties to the community more generally. A study of low- and middle-income countries suggested that NGOs have more sensitive client–patient attitudes (Brugha & Zwi 1998). User fees likely did not play a role because the NGO had slightly higher user fees than CCC.

Demographic and Health Surveys (DHSs) carried out in 1996–1997, 1999–2000, 2004, 2007 and 2011 indicate that there has been a substantial decline starting around 2002 in the urban under-5 mortality rate (U5MR) and the infant mortality rate (Figure 4). While

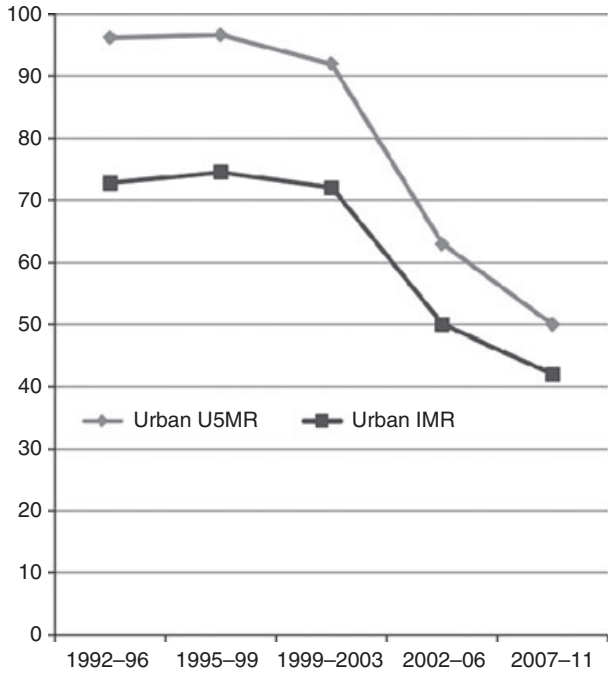

Figure 4 Trends in urban U5MR and IMR from Demographic and Health Surveys. Sources: Bangladesh Demographic and Health Surveys 1996–97, 1999–2000, 2004, 2007, 2011. (NIPORT, Mitra and Associates, and Macro International 2013).

these rates appeared to have stagnated in the 1990s and early 2000s they have declined by more than 30% during the project period (NIPORT, Mitra and Associates, and Macro International 2013). There are other possible explanations for the observed decline, but it is at least possible that the greater attention to urban PHC, including the urban PHC project, helps explain some of the change. Based on the experience described here, the Government of Bangladesh expanded the approach to cover 11 cities and municipalities and is now implementing a third phase to further expand the model.

There are some practical lessons that emerge from the experience described here that would be applicable in Bangladesh and likely in other settings. Contracts with non-state providers should include explicit goals in terms of (i) having an equity focus and ensuring services reach the urban poor, (ii) continuously improving the quality of care, and (iii) increasing coverage of key preventive and promotive services. The success in reaching these goals should be carefully tracked using independently collected data from household and health facility surveys.

The success of the NGOs appears to derive, at least partly, from their flexibility in responding to local conditions and their greater ability to innovate. Protecting the autonomy of NGO managers and facilitating innovation should thus be explicitly addressed in the design and implementation of any contracting process. Contracts should specify the desired results, but ensure NGO managers have sufficient independence. We cannot tell from this study whether giving greater autonomy to public sector managers would improve their performance.

In Chittagong, the city corporation felt that publicly provided services using salaried civil servants would be preferable to contracting with NGOs. This reluctance to use public funds to finance contracts for PHC is widespread in low- and middle-income countries. This is in stark contrast to developed countries where only 4 of 29 (14%) OECD countries studied relied on salaried civil servants as PHC providers (Paris *et al.* 2010). It may be that, as in Bangladesh, governments will become more comfortable with contracting as they have more experience with it. This suggests that pilots of contracting conducted on a meaningful scale might be important in helping governments to work with the non-state sector.

This study adds to the evidence that contracting with NGOs can be helpful in improving the coverage of PHC services, strengthening the quality of care and improving equity. It also suggests that these improvements can be accomplished efficiently and at relatively low cost. As the world urbanises, a larger proportion of the poor will live in cities and providing health services to them will become an ever more important challenge. Based on the experience in urban Bangladesh, it appears that specific investments in urban PHC infrastructure combined with contracting with non-state providers in a systematic fashion could be a useful approach in dealing with this challenge.

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