

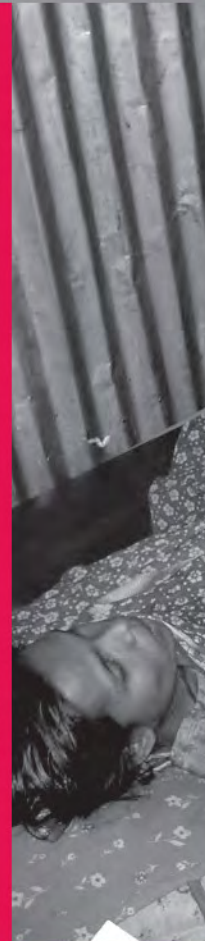
# MANOSHI

working paper

## Retention of Female Volunteer Community Health Workers

A Case-Control Study in  
the Urban Slums of  
Dhaka

Khurshid Alam  
Elizabeth Oliveras  
Sakiba Tasneem



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## EXECUTIVE SUMMARY

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Volunteer health workers are one approach to addressing the health workforce shortage in developing countries. BRAC uses *Shasthya Shebikas* (SS) as core workers in its successful health programs. The SS model has been a cornerstone for rural development, and now BRAC has begun using SS in urban slums through its *Manoshi* project, a community-based health intervention designed to improve maternal, neonatal and child health. However, the program experienced high drop-out rates among the SSs, suggesting a need to better understand the factors associated with retention of these volunteers. Past cross-sectional studies provide some indication, but they do not provide an assessment of the relative importance of different factors. This study focuses on the SSs in Dhaka's urban slums. It focused on the incentives and disincentives that affect retention rates amongst the SSs.

This study employed a mixed-methodological approach including a case-control design to assess factors relating to retention of the SSs, and focus-group discussions (FGDs) to explore solutions to these problems. The study was conducted in BRAC project areas in urban slums of Dhaka city. The primary outcome of interest was retention. In total, 542 current SSs and 146 SS dropouts participated. The odds of retention were calculated, controlling for the confounders, to assess the effects of different incentives and disincentives. Qualitative data were obtained to identify recommendations for changes to the programme that may help improve retention of SS.

Financial incentives were the main factors identified, linked to SS retention. SSs that joined with the expectation of income were almost twice as likely to remain as SS. This finding was reinforced by the inverse association between wealth quintile and retention; the poorest SSs were significantly more likely to stay in the programme than those in the richest quintile. However, social prestige, community approval and household responsibilities were important non-financial factors associated with SS retention.

Factors found important in this study are similar to earlier findings from rural areas. But the data indicate that financial incentives are the most significant factor relating to SS retention in urban slums. Moreover, the results suggest other avenues that can be strengthened to improve retention of SSs in urban areas.

## INTRODUCTION

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An emerging consensus suggests that an adequate health workforce is key to achieving improved health outcomes (Travis et al., 2004). Estimates suggest a shortage of at least four million health workers worldwide (Chen et al., 2004). Without action to address the health human resources crisis, health systems will not deliver the care required to meet the Millennium Development Goals by 2015 (Narasimhan et al., 2004). In Bangladesh, as in many other developing countries, the scarcity of health human resources is a pressing issue. The provider-population ratio in Bangladesh is very low, 146 healthcare providers per 10,000 population (Bangladesh Health Watch 2007, 2008); there is only one doctor for every 4,645 people, one nurse for every 7,786 people and one Family Welfare Assistant (family planning field worker) for every 5,651 people (Mabud, 2005).

In response to this situation, Bangladesh Rural Advancement Committee (BRAC) has engaged large numbers of female community health workers called *Shasthya Shebika* (SS). Currently, about 80,000 SSs work throughout the country, in both rural and urban areas. These SSs are the core of BRAC's community-based health interventions, serving as the first point of contact between community members and BRAC health services. The SSs are selected from their own communities following criteria that include being a member of a BRAC Village Organization (VO), being married, having a youngest child no less than two years, being 25 years or older, being willing to provide voluntary services, and being acceptable to the community. Each selected SS receives a three-week basic training before beginning her work and one-day refresher training each month during her work.

Definitions of volunteers vary, for example, the Oxford Advanced Learner's English Dictionary defines a volunteer as 1) a person who does a job without being paid for it; 2) a person who offers to do something without being forced to do it. An alternative and more detailed definition from the United Nations Volunteers gives three criteria for volunteerism: 1) that it is not undertaken primarily for financial gain, 2) that it is undertaken of one's own free will, and 3) that it brings benefits to a third party as well as to the people who volunteer (Dingle, Sokolowski, Saxon-Harrold, Smith, & Leigh, 2001). In fact, neither definition exactly matches the SSs who see their role as one of profiteering because they receive modest financial incentives for their work (Khan,



Chowdhury, Karim, & Barua, 1998). In particular, the SS are able to make some money from providing health services and selling health commodities and drugs in their communities. In order to purchase medicine and health commodities to sell, they receive an interest free loan from BRAC. They also receive an allowance for attending refresher trainings each month.

SSs have been used in rural areas since 1977 and were recently introduced in urban settings in *Manoshi*, a maternal, newborn and child health (MNCH) project, which is being implemented in urban slums of Dhaka City where each SSs are responsible for overseeing, on average, 200 households, visiting 8-10 households per day. SSs visit homes, disseminate health messages, identify pregnancies, accompany mothers in labour to delivery centres, attend to mothers and newborns at the time of delivery, and provide essential newborn care.

The success of such volunteer-based programs is often hampered because of high dropout rates (Kabwa, Isoke, & Nyakahuma, 1996). High attrition rates contribute to “decreased stability of the program, increased training costs because of the continuous need for replacement, and they make the program difficult to manage” (Haines et al., 2007). In particular, dropout increases the demand for human and financial resources for recruitment and training (Yiu, Au, & Tang, 2001). Since the inception of the SS model, BRAC has faced high dropout rates of SS in both urban and rural areas. Estimates range from 20% to 32% depending on the location and the program (Khan et al., 1998; "Personal Communication," 2008). BRAC has conducted a number of studies to identify incentives and disincentives and thereby determine approaches to minimize attrition. They have highlighted that economic incentives, primarily supplementary income from the sale of medicines and other health-related products, are the prime incentive for becoming an SS and that the perception that earnings are insufficient is a main reason for dropout (Ahmed, 2008; Khan et al., 1998; Mahbub, 2000; Rahman & Tasneem, 2008). Other causes of dropout include time constraints and disapproval of husbands, family members, and neighbours (Ahmed, 2008; Mahbub, 2000; Shin, 2007), while the social prestige associated with the work has been shown to be an incentive to continue the SS role (Ahmed, 2008).

The majority of these studies has either been limited case studies or has included only current SS; thus, they do not provide a rigorous analysis of the extent to which different risk factors affect retention. However, their findings mirror those from studies of health volunteers in other settings. Qualitative studies in

Vietnam and South Africa showed both financial and non-financial incentives influenced health workers' job motivation and attrition (Dieleman, Cuong, Anh, & Martineau, 2003; Kironde & Klaasen, 2002). One positive example is a study from Cambodia that showed that low attrition among female volunteers in a community-based reproductive health project was attributed to supportive supervision and achievement of personal growth through training and practice (Suehiro & Altman, 2003).

Furthermore, the majority of the studies of SS were conducted in rural areas. In the only study of urban SS, a small study in one urban slum, competition from other sources of employment was an additional cause of dropout that had not been previously identified in rural sites (Shin, 2007). The local labour markets appear to be different in urban areas than in rural areas and may affect SS retention because they provide opportunities not available in rural areas. In addition, the fact that rural SS treat more patients and sell more commodities because people have less access to public health services also suggests that the way in which SS work may differ in urban settings (Tasneem, 2006). Such potential differences may affect retention and therefore warrant further exploration, particularly if the SS approach is to be adopted more widely in urban health programs.

## **OBJECTIVES**

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The present study focuses on the retention of SS in urban slums of Dhaka city where BRAC is implementing *Manoshi*. It combines a case-control study with quantitative analysis to assess the incentives and disincentives that affect retention of SS.

## **METHODOLOGY**

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This mixed-method study included both a quantitative survey and qualitative focus group discussions (FGDs). In the quantitative component, an exploratory case-control design was used to assess factors related to retention of SS. Dropouts were considered as cases and those who stayed with the *Manoshi*

program were taken as controls. FGDs were used to obtain more detailed information on SS retention and dropout and to explore key findings from the case-control study in greater detail. They were also used to identify recommendations for programme changes that may help to improve SS retention.

## **Sample**

To determine the sample size, an unmatched case-control design was assumed. We used Epi-Info to estimate the required sample size. Exposure among the controls was assumed to be 15% based on results from an earlier study (Shin, 2007), the odds ratio (OR) of dropout associated with exposure was assumed to be 2 with 95% confidence and 80% power. Although there is relatively little to be gained from high ratios of controls to cases, in this case a large number of controls was available (N = 650) and was used as the basis for determining both the ratio and required number of cases. For a ratio of 1:4, the number of cases required was 133.

## **Eligibility Criteria**

This research was conducted in 12 *Manoshi* program sites where the program had been in operation for at least one year at the time of data collection, to allow sufficient time for SS to participate and decide on whether to continue or drop out. All SS who had completed the three-week basic training but were no longer on the register of current SS in the branch office were potential cases (dropouts). SS who were on the register of the branch office during the study period were potential controls (continuing SS). SS who were recruited and attended but did not complete the basic training were excluded because the program does not consider someone to be an SS if she has not completed the basic training

## **Protocol and Measures**

The final survey questionnaire was developed based on a tool used in a study of incentives for current SS in a rural BRAC MNCH site (Rahman & Tasneem, 2008) and adapted using information gained from fifteen initial in-depth interviews with SS and *Manoshi* program staff. The initial interviews with SS included a pile sorting exercise to rank incentives and disincentives. The final questionnaire included questions on socio-demographic characteristics and incentives and disincentives received or experienced. The primary factors of

interest were SS income; social prestige; attitude of family members of SS and the community; and competition with alternative employment, other providers and other SS. Community attitudes were assessed by asking about how the community treated the SS role. Reasons for joining as an SS were measured by a single item: ‘Why did you start working as a *Manoshi* SS?’. Social prestige is a composite measure constructed through a factor analysis of whether the SS received social invitations, *salaam* (salute), informal credit or invitations to resolve disputes.

Three FGDs with current SS and three with dropout SS were conducted after completing the survey and conducting preliminary analysis. Each FGD included 6-8 participants who were selected purposively based on their socio-demographic characteristics and previous performance as SS. FGDs took place in locations other than BRAC branch offices to encourage spontaneous and unbiased discussion. The Senior Field Research Officer and the Principal Investigator moderated the FGDs and each FGD lasted about an hour. Each FGD was tape recorded with prior consent from the group. Immediately after coming from the field, transcripts were prepared. The study was approved by the ICDDR,B Ethical Review Committee.

## **Data Analysis**

Analysis was done using SPSS 11.5 and STATA 9.0. Factor analyses were used to construct wealth quintiles and a composite measure of social prestige. Descriptive and univariate analyses were used to identify socioeconomic and demographic differences between current and dropout SS. Variables found to be significant at the level of  $p \leq 0.15$  in the univariate analysis were entered into the multivariate logistic regression models with stepwise selection in order to identify the independent risk factors associated with being a current SS, which was used as proxy for retention. A model that best explains the association between retention and other independent variables was identified after controlling for confounders. This analytical strategy identifies independent risk factors; odds ratios (ORs) were calculated in order to look at the magnitude of the effects of incentives and disincentives on retention.

Transcripts of all FGDs were coded and organized according to key themes that were determined in relation to the study objectives, starting with the guidelines but adding additional themes raised by the participants. Both content and

thematic analyses were done. Recommendations of dropouts and current SS on retention were compared to assess similarities and differences.

## RESULTS

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Of the 650 current SS listed by the program, we reached 83% as the required sample. According to program staff among those we could not reach, 68% were absent on the survey day; 15% had left the slum either to another slum or to had returned to a rural area; 13% could not be traced at all with repeated visits though the program staff knew them; 4% were unknown to BRAC field staff; and the remaining 1% refused to participate in the survey. For the dropouts, 512 were listed by the program but we reached only 28%. Among those we could not reach, 68% had left the slum either to another slum or had returned to a rural area; 15% could not be traced at all with repeated visits though the program staff knew them; 9% were absent on the survey day; and 7% were unknown to BRAC field staff. Two SS had been promoted to *Shasthya Kormi* (SK) and were not eligible for the survey. The program had been in operation for about two years in half of the 12 surveyed areas and one and a half years in the other area at the time of this survey. Median duration of employment as SS for current SS was 13 months whereas it was six months for dropout SS. More than one-fifth of the dropout SS dropped out in their first month of employment with *Manoshi*; 50% dropped out within six months; 76% within nine months; and more than 90% within the first year.

Dropout SS and current SS differed in marital status ( $p < 0.001$ ), educational attainment ( $p = 0.04$ ), wealth quintile ( $p = 0.01$ ), expectation of income ( $p = 0.01$ ), expectation of social recognition ( $p = 0.001$ ) and change in social prestige ( $p < 0.001$ ) (Table 1). In the unadjusted model, factors including socioeconomic status (as measured through wealth quintiles, and education level), reason for becoming an SS (financial income and social recognition), social prestige, community approval, household responsibilities, supervisor's feedback on SS activities and competition with other health service providers were significantly associated with SS retention.

**Table 1: Socio-demographic characteristics of dropout and current SS, Dhaka urban slums, 2008**

Characteristics	Dropout SS (n = 146)	Current SS (n = 542)	p-value
Age (mean years)	30.8	32.3	Ns
Marital status			<0.001
<i>Single</i>	13 (8.9)	11 (2.0)	
<i>Married</i>	124 (84.9)	467 (86.2)	
<i>Separated, divorced, or widowed</i>	9 (6.2)	64 (11.9)	
Education	47 (32.2)	189 (34.9)	0.04
<i>No education</i>	23 (15.8)	128 (23.6)	
<i>Primary incomplete</i>	76 (52.0)	225 (41.5)	
<i>Primary complete or higher</i>			
Wealth quintile	16 (11.0)	116 (21.4)	0.01
<i>Poorest</i>	26 (17.8)	104 (19.2)	
<i>Lower middle</i>	30 (20.5)	120 (22.1)	
<i>Middle</i>	25 (17.1)	82 (15.1)	
<i>Upper middle</i>	49 (33.6)	120 (22.1)	
<i>Richest</i>	72 (49.3)	328 (60.5)	0.01
Joined as SS to earn income	21 (14.4)	150 (27.7)	0.001
Joined as SS to increase social recognition			<0.001
Change in social prestige	76 (52.1)	141 (26.0)	
<i>Less than before</i>	36 (24.7)	203 (37.5)	
<i>No change</i>	34 (23.3)	198 (36.5)	
<i>More than before</i>			
Duration of stay in slum (years, mean)	16.2	16.4	Ns
Monthly family income (US\$, mean)	135.5	133.8	Ns
VO membership of SS	43 (29.5)	190 (35.1)	Ns

\*ns = not significant; 1 US\$ = 67.52 taka (first July 2008)

In the adjusted model, we found all the above factors except education were significant independent predictors of SS retention (Table 2). Education level was not a confounder, so it was dropped from the final model. In general, the odds of remaining a SS decreased with increasing wealth; the odds of retention were 2.7 times higher for the SS who were the poorest compared to the richest SS.

**Table 2: Multivariate logistic regression of independent factors associated with retention of SS, Dhaka urban slums, 2008**

Risk factor	Adjusted OR	95% CI*	p-value
Age	1.00	0.98 – 1.02	0.87
Wealth quintile			0.04
<i>Poorest</i>	2.65	1.36 – 5.18	0.004
<i>Lower middle</i>	1.71	0.94 – 3.10	0.08
<i>Middle</i>	1.82	1.03 – 3.22	0.04
<i>Upper middle</i>	1.62	0.88 – 2.99	0.12
<i>Richest</i>	1.00	ref.**	ref.**
Joined as SS to earn income	1.87	1.22 – 2.85	0.004
Joined as SS to increase social recognition	2.21	1.28 – 3.84	0.005
Change in social prestige			<0.001
<i>Less than before</i>	1.00	ref.**	ref.**
<i>No change</i>	2.62	1.61 – 4.26	<0.001
<i>More than before</i>	3.34	2.01 – 5.56	<0.001
Received community approval for SS role	2.57	1.52 – 4.34	<0.001
Did not face problems due to household responsibilities	2.20	1.18 – 4.09	0.01
Faced competition with other providers	1.02	1.00 – 1.04	0.03
Supervisor's feedback on SS activities	2.54	0.90 – 7.12	0.08

\*CI = confidence interval

\*\*ref. = reference group

\*\*\* Controlling age and supervisor's feedback on SS activities

SS who joined with the expectation of income from the SS role were almost twice as likely to remain as SS (adjusted OR=1.87, 95% CI=1.22 – 2.85). This expectation of income was given voice in the FGDs when SS noted that it was difficult to run their family and educate their children given the high price of daily necessities. As one current SS put it:

*“I am poor. My husband alone cannot afford all family expenditure - house rent, food, cloths, children education... so, we have joined as SS with the expectation of income... salary as means of regular income is more preferable to anything for continuation of our SS work.”*

In fact most of the SS in the FGD said that they were not aware of their “volunteer” role. As one dropout SS disclosed:

*“We were not clearly told about our role as volunteer. The Program Organizer madam told us of monthly 300-400 taka income. She also told us that if we joined as SS, BRAC might give us salary in the future.”*

SS who enjoyed more social prestige after they became SS were more than three times as likely to remain as SS compared to the SS who reported less social prestige after becoming SS (adjusted OR=3.34, 95% CI=2.01 – 5.56). The importance of social prestige was described in the FGD. SS felt that as a result of their role, the community members knew them, honoured them and looked for them to support their health needs. This was illustrated by the current SS in Kamrangir Char:

*“We feel delighted working for BRAC. Everyone honors us. Now many people know us and look for us. Community people want us to stay with Manoshi”*

A current SS from Gulshan was more specific about the benefits for her:

*“Working as a SS is good for me. Now many people know me. My social honor has increased. I receive salaam (salute) more than before; people even share their internal family problems and seek suggestions sometimes”*

Despite their improved social status, many SS noted that they preferred money to honour because they have to buy everything for their living. Some of them mentioned that this might be different than for rural SS because they noted that rural SS enjoy more social prestige because they work in stable and known communities while the urban SS work with urban slum dwellers that are highly mobile.

In addition to social prestige, approval (support) for their services from their community was associated with retention. SS who received approval were almost three times as likely to remain as SS compared to those who did not (adjusted OR=2.57, 95% CI=1.52 – 4.34). In the survey, 90% of current SS and 73% of dropout SS mentioned that they received community approval for their work. In the FGD, most current and dropout SS mentioned they received continuous support and cooperation from their family members and the community which was similar to the findings of the quantitative survey. But some SS both from current and dropout groups mentioned that they struggled to continue their SS role because of disapproval from family members or the community. This was illustrated by a current SS of Kamrangir Char:



*“Some people tease our work. You became a new doctor! Old doctors are dying without a meal. When we rush on emergency call at 3am in the night these people ask ‘where are you going at midnight’. In their opinion, no good women go out that late in the night.”*

Some SS noted negative reactions from the community. One dropout SS from Gulshan mentioned:

*“The mother of a pregnant woman became angry with me and to the local police station to complain that since I brought her daughter to a BRAC delivery centre, she needed surgery. Otherwise she didn’t need it and it would have been a normal delivery.”*

Household responsibilities also affected retention. SS who did not face problems due to their household responsibilities were more than twice as likely to remain as SS (adjusted OR=2.2, 95% CI=1.18 – 4.09). Conflict from household responsibilities was more common among some SS groups, particularly those who had more school-going children (9% of current SS versus 20% of dropout SS) and those who were married (8% of current SS versus 16% of dropout SS). While a few of the SS in the FGDs reported that they had time conflicts in carrying out both household responsibilities and SS activities, most of them said that they were able to manage both. This was illustrated by a dropout SS of Korail slum, Gulshan:

*“I used to work in the community in between my household works. Once I finished cooking, sending my husband to work and children to school I started home visits and advising pregnant mothers. I managed my work whenever I could manage time.”*

Retention was not affected by whether or not SS felt that they faced competition from other providers for selling their services and health commodities. In urban slums, a variety of providers, both formal and informal, offer health services and sell drugs and health commodities and may act as competition for SS. SS reported that they faced competition from pharmacy shops, village doctors and other TBAs and over 75% of all SS faced competition from more than 10 providers. However, while those who stayed as SS reported more providers with whom they were in competition than those who dropped out (Table 3), overall

those who reported competition were no more likely to remain as SS. A current SS of Kamrangir Char shared the way in which such competition plays out:

*“Some TBAs prevent us from entering into particular houses in their areas where they claim they have patients (pregnant mothers). They warn us not to treat them. They also continuously discourage those pregnant mothers to take treatment and advice from BRAC SS.”*

**Table 3: Distribution of SS by reported number of health providers with whom they complete, Dhaka urban slums, 2008**

Number of providers reported as competition	Current SS (%)	Dropout SS (%)	Total (%)
0 – 10	23.1 (125)	30.8 (45)	24.7 (170)
11 – 20	37.1 (201)	39.7 (58)	37.6 (259)
21– 30	24.5 (133)	18.5 (27)	23.3 (160)
31 – 40	10.1 (55)	7.5 (11)	9.6 (66)
41+	5.2 (28)	3.4 (5)	4.8 (33)
Total	100 (542)	100 (146)	100 (688)

In terms of the income received, SS are paid for pregnancy identification, bringing mothers to birthing huts and being present during deliveries and newborn care. However, the survey showed that on average, only 45% of the last five deliveries reported by an individual SS among women whose pregnancies they had identified took place outside the delivery centres. Many SS expressed frustration over following women for eight to nine months and then not getting the delivery incentives because the woman delivered at home or somewhere outside the slum. As one current SS mentioned:

*“I identified and took care of a pregnant mother for long nine months, but before delivery, the mother left the slum to her mother’s house in a rural area. So I didn’t receive any incentive for the delivery even though I invested a long time for that mother.”*

Despite the importance of nonfinancial incentives to SS retention in the multivariate model, when asked for their recommendations about how to encourage SS to stay, the discussion focused on financial incentives. The most common suggestion was an increase in the existing financial incentives (e.g., an increased allowance for attending refresher training, an incentive package for pregnancy identification, supply of drugs and commodities at lower cost).

However, alternatives like the supply of saris or shoes and treatment for their family members when sick were also suggested as were bonuses or tips before major festivals. Incentives related to social prestige were less commonly mentioned although a few SS suggested networking SS with key social institutions to increase their standing in the community. An additional suggestion was the provision of ID cards to make them more recognizable to the community.

## DISCUSSION

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It is evident from the results of the study that financial incentives were the most commonly discussed factor associated with SS retention. In all the six FGDs with both the current and dropout SS almost all the participants raised the issue of financial incentives the most times which clearly exceeded their concerns over other issues like social prestige, community approval, household responsibilities and competition with other providers. SSs who joined *Manoshi* with the expectation of financial income were more likely to remain as SSs. This finding was reinforced by the inverse association between wealth quintile and retention; the poorest SS were significantly more likely to stay in the program than those in the richest quintile. The importance of financial incentives for continuing as an SS confirms earlier findings from studies of BRAC SS in which economic incentives were found to be the prime incentive to become an SS as well as a main reason for dropout (Ahmed, 2008; Khan et al., 1998; Mahbub, 2000; Rahman & Tasneem, 2008). However, while the urban SS are drawn from among economically disadvantaged slum dwellers, those who appear to benefit most are the poorest among them, those for whom the minimum income provided was important to addressing their daily hardships.

Though SS serve in *Manoshi* as volunteers, they expected a “fixed salary” as a means of regular income for their services for the community. The fact that SS are paid financial incentives for some services may have led to the expectation that it is a paid rather than volunteer position. Moreover, existing data show that calling these SS volunteers is not fully accurate. Since they are given financial incentives it may not be unreasonable to expect that they will serve for longer than volunteers might. However, when SS understood the limitations of the project in providing a regular salary, they suggested instead increasing the

current financial incentives for certain activities like pregnancy identification and attending refresher training. The increased financial incentives would minimize their frustrations for missing incentives for delivery if the mother delivers at home or a place other than a delivery centre.

Whether a woman stays on as an SS depends on how the community accepts and recognizes her services. The SSs' role, in general, helped to expose women to society beyond their families and helped them interact in the community. Most of them mentioned that they were honoured by the community more after they became SS; they received more *salaam* (salute); and they were more often invited to solve social disputes including the internal conflicts of other families. These elements of social prestige indicate the increased social acceptance they enjoyed and were a nonfinancial incentive that helped SS to continue their role in the community as has been found in earlier studies (Ahmed, 2008). Though SS experienced mostly positive reactions from the community members for their role, sometimes they also experienced negative reactions like non-cooperation, teasing and negative comments and behaviour that discouraged them from continuing their role in the community. Such reactions have been noted in other studies, particularly when a program is new (Chowdhury, Chowdhury, Islam, Islam, & Vaughan, 1997). Given that *Manoshi* had been operating for less than 2 years at the time of the study, we anticipate that these negative reactions will reduce over time.

Household responsibilities particularly cooking for the family members, rearing children and educating them, and taking care of older and disabled family members fall mainly to women in Bangladeshi society. In this study we found a significant effect of household responsibilities on SS retention. SS with no or fewer household responsibilities were more likely to remain with the program, likely because they had more time to be involved in extra-household activities. More information is needed about the different household responsibilities of urban women and different models of support available to them in order to determine how best to incorporate this factor into programmatic decisions about who to recruit as SS.

Despite concerns about the impact of competition from other sources of employment on participation as SS, this was not an important predictor of retention. It may be that women who are interested in other forms of employment self select out of SS participation. If this is the case, while competition from other

sources of employment may not be related to retention among those SS who are recruited, its effect on the pool of eligible women may lead to unexpected differences between rural and urban SS. For example, those women who are available to be SS in urban areas may be somehow less qualified than those in rural areas where women have fewer options and this may limit the abilities of SS to perform as expected. This issue also warrants further exploration because of its implications for the performance of SS.

While we anticipated that competition with other health service providers in the slums might negatively affect SS retention, we found that it had little association. The finding that current SS were slightly more likely to report competition should be interpreted with caution given that it is of borderline significance. This counterintuitive finding may reflect a greater awareness on the part of current SS about competition with other providers; dropout SS may simply not acknowledge the competition they face or may not have had adequate time to experience or understand it. Overall, this suggests a need to better understand the way in which competition operates within the urban environment.

Consistent with past studies of rural SS, income, social prestige and community approval were common positive factors associated with SS retention among these urban SS. However, perceived access to skills and knowledge, which are important to retention in rural areas, are not a driving factor among urban SS. This difference might be due to better access to learning from multiple sources in urban areas and lack of flexible time for gaining less priority skills and knowledge in a fast paced urban environment. Some direct program factors that were identified in rural areas including lack of income from selling medicine and commodities and SS workload which we did not look at for the urban SS. At the community level, there appears to be less resistance to the SS role in urban areas, with few SS noting disapproval from family or community members, unlike their rural counterparts. Together these differences suggest that expectations on the part of both individuals and communities differ in urban areas and do influence the work of the SS.

## **LIMITATIONS**

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Because this was a cross sectional study, the results are only suggestive of the relationship between remaining as an SS. The use of a case-control design increases the robustness of these findings relative to previous cross-sectional studies but the large proportion of dropout SS that could not be interviewed because of their movement out of the slums worked as a limiting factor in the urban areas. In addition, the role of financial incentives could not be fully assessed. While level of SS income may be related to retention in the program, because recall bias is likely to be differential for current and drop out SS, data on SS income were not collected from dropout SS. The lack of clear boundaries between current and dropout SS was problematic for this study in terms of identifying factors associated with retention. The program definition of SS evolved over time and some former dropout SS rejoined during the data collection period because of an improved incentives package; in addition, some SS considered as current SS because they are on the program register may not be truly participating in providing services. These issues increase the likelihood of non-differential misclassification and may have minimized differences between the groups. Finally, the assessment of wealth used only dichotomous responses regarding ownership of household goods (as is commonly done), and this does not allow for differences that may be better expressed by understanding multiple ownership of the same item (e.g. more than one television). Furthermore, because the wealth quintiles were calculated based on the SS data and not based on the larger community, they may create artificial divisions between groups that are actually quite similar.

## **RECOMMENDATIONS**

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A number of recommendations about how to ensure SS retention arise from this analysis. First, more consideration is needed when addressing SS expectations of income. This could be done by restructuring the existing financial incentives, expanding them to better compensate the SS and improve their current retention. Second, frustrations on the part of the SSs could be minimized by making their income stream steadier and less dependent on the singular event of delivery. SS could be compensated for pregnancies rather than deliveries, with the caveat that

they meet certain standards (e.g., a set number of interactions with women which is dependent on the duration of pregnancy at enrolment). Finally, the program should communicate clearly that the SS role is voluntary and should develop guidelines for expected duration of participation so that the program and volunteers have similar expectations.

## CONCLUSION

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This study sheds light on some distinct factors like expectation of income, social prestige and community approval that are positively associated with the retention of BRAC health volunteers working in Dhaka City's urban slums. While some factors that encourage SSs to remain in the program are common to both urban and rural areas, the urban environment both poses new challenges and reduces some obstacles to this model of service delivery. The specific recommendations that came from the SSs in this study may help to improve their retention both within the *Manoshi* program and in other programs employing volunteers. However, given that the study was conducted in the capital city, which differs from other urban areas in Bangladesh in many ways (National Institute of Population Research and Training (NIPORT), MEASURE Evaluation, ICDDR, & Associates for Community and Population Research (ACPR), 2009), the findings should be verified before they are generalized to other settings. Simultaneously, the fact that this study reiterates the importance of some factors already identified in rural areas underscores the need to address these issues to ensure the viability of this volunteer workforce. Some dropout is expected in any program that employs volunteers, but addressing their needs, sometimes in quite simple ways, can strengthen their commitment and their participation, thereby supporting the program as a whole. In the case of health workers, this can benefit programs directly as well as providing value to the health system.

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