

# The Impact of Household Delivery of Family Planning Services on Women's Status in Bangladesh

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**CONTEXT:** Qualitative studies assessing the impact of the household delivery of family planning services on women's social status have yielded contradictory findings. Given the resumption of these services in Bangladesh in 2003, it is important to reevaluate the social impact of the doorstep program using quantitative techniques.

**METHODS:** Longitudinal and cross-sectional data from 3,783 women using doorstep services in two rural districts of Bangladesh are used in ordinary least-squares and logistic regression analyses to assess the effect of doorstep services on changes in women's status between 1988 and 1993.

**RESULTS:** In analyses controlling for background characteristics, women's status in 1988, previous service use and visit selection bias, household outreach is associated with increases in women's status between 1988 and 1993. However, this effect is largely attributable to the impact of doorstep services on women's ability to regulate their fertility rather than to the home visits themselves.

**CONCLUSION:** The decision of the Bangladesh Ministry of Health and Family Welfare to resume household family planning services should not be detrimental to women's status, and may be associated with gender benefits to female clients served by the program.

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From 1978 to 1997, the Bangladesh government hired and trained married women to provide family planning counseling and services to couples in rural households. At the peak of the program, a total of 28,000 of these "family welfare assistants" were working in hamlets throughout the country.\*<sup>1</sup> By the early 1990s, evidence showed that doorstep service delivery had helped to increase family planning awareness, as well as the rate of method uptake and the continuity of method use, among rural couples.<sup>2</sup> Furthermore, by increasing access to reversible methods, the program helped to reduce the proportion of contraceptive users who adopted female sterilization<sup>3</sup>—a method that the government family planning program had heavily promoted. In areas where family welfare assistants had been trained to administer the injectable, the reduction in the reliance on sterilization was particularly pronounced and was also accompanied by a reduction in reliance on the pill.<sup>4</sup> Even so, overall pill use increased steadily following the initiation of doorstep delivery, with family welfare assistants providing nearly 85% of all pills dispensed in rural Bangladesh between 1978 and 1997.<sup>5</sup>

Despite these successes, various studies identified shortcomings in the program. First, doorstep services did not include child or reproductive health care, in large part because a legacy of organizational problems had separated health care and family planning in the government ministry responsible for the program.<sup>6</sup> Second, health and social service training, and supervisory and management problems affected the quality of services in the program. Client

surveys suggest that services unduly focused on particular contraceptive methods and often omitted health service needs.<sup>7</sup> And recent qualitative research suggests that operational problems have persisted, even after health sector reforms.<sup>8</sup> Third, some family welfare assistants focused on better-educated women; targeting uneducated or poor women would have been more effective.<sup>9</sup> Finally, the policy of reaching couples was implemented as outreach that focused on female clients rather than on couples. The exclusion of men constrained the range of services offered and reduced the efficiency of outreach efforts.<sup>10</sup>

Whether doorstep service delivery affected women's autonomy and status is also unclear. Finding out the answer is important because Bangladesh is a patriarchal society, and Bangladeshi women have a lower status than do women in other Asian countries.<sup>11</sup> The low status of women in rural Bangladesh is detrimental to maternal and child health<sup>12</sup>—a finding that is consistent with research conducted elsewhere in South Asia, showing that women are more likely than men to contract infectious diseases.<sup>13</sup>

The incorporation of gender equity into sexual and reproductive programs and the consideration of gender effects during program evaluation were emphasized in the International Conference on Population and Development in 1994.<sup>14</sup> Consequently, evaluation of the doorstep program shifted from the assessment of its effects on family

\*Nongovernmental organizations also deployed female outreach workers, but most nongovernmental support for household-based family planning services has now ended.

planning to the measurement of its impact on women's lives. However, studies on the program's social effects have so far reached contradictory conclusions.

A qualitative study conducted by Simmons and colleagues<sup>15</sup> in the Matlab project area concluded that doorstep delivery of services enhanced women's status. For example, family welfare assistants benefited directly from receiving cash wages, and indirectly from gaining mobility, prestige and authority from their work. In turn, the large-scale deployment of female family planning workers changed people's perceptions of women's roles: Every hamlet in Bangladesh had a family welfare assistant acting as household visitor, adviser and confidante, clearly showing that women were employable, mobile, socially gregarious and autonomous, without depending on male partners or the extended family. Young female clients were particularly influenced by encounters with family welfare assistants. The program was thus characterized as having a "beyond-supply" social effect:<sup>16</sup> In addition to helping clients achieve control over their fertility—and therefore their lives<sup>17</sup>—doorstep delivery provided benefits extending beyond those arising from the receipt of family planning services.

In contrast, qualitative work by Schuler and colleagues<sup>18</sup> found that recurring household visits might have inadvertently reinforced patriarchal customs of female dependency, seclusion and purdah. Although doorstep services were not shown to harm women's status, results suggested that they prevented improvements in women's status that might have occurred if female clients had been required to travel to a clinic. Obtaining services away from home could have exposed female clients to influences fostering independence, autonomy and mobility.

Other studies concluded that door-to-door outreach was no longer justifiable on demographic grounds. For example, some observers argued in 2000 that the culture of practicing family planning had become so ubiquitous in Bangladesh by the 1990s that doorstep services had become unnecessary.<sup>19</sup> Moreover, some family welfare assistants targeted higher-status women, hence departing considerably from the intended client coverage.<sup>20</sup> These findings suggested that providing family planning services at a static service delivery site would not affect contraceptive prevalence.

Prompted by these findings and by concerns about the cost of sustaining a large workforce of family welfare assistants, some donors cut support for the program and others called for the program to be discontinued. In 1997, the national provision of doorstep services ended, and each subdistrict health team received instructions to develop static community "satellite clinics" that provided basic health care and family planning services.<sup>21</sup> The Ministry of Health and Family Welfare continued to employ 23,500 family welfare assistants in these satellite clinics.

Despite the changes in central policy, some program managers continued to encourage staff to provide doorstep delivery, and some local officials and senior administrators continued to advocate such services on the grounds that they successfully promoted family planning. In March 2003,

the Ministry of Health and Family Welfare issued a policy reinstating doorstep delivery, countering established loan and assistance agreements between the government of Bangladesh and the World Bank and other donors.<sup>22</sup>

Given the decision to reinstitute doorstep service delivery and the lack of consistent evidence from qualitative studies on the program's social impact on women, we designed a quantitative study to assess the social effects of the scheme when it was fully operational. In this study, we used multiple linear and logistic regression techniques to examine the association between women's status and the number of visits that clients received from family welfare assistants.

## METHODS

### Data

The data for this study were drawn from the records of the Maternal and Child Health–Family Planning (MCH-FP) Extension Project.\* The International Centre for Diarrhoeal Disease Research, Bangladesh, launched the project in 1982 to test whether successful strategies of the Matlab Family Planning and Health Services Project could be implemented by the Ministry of Health and Family Welfare in Sirajgonj and Abhoynagar–rural districts in central and western Bangladesh, respectively.<sup>23</sup>

The MCH-FP Extension Project monitored contraceptive and reproductive behavior and contact with government health and family planning workers among a random stratified cluster sample of women in regions of Sirajgonj and Abhoynagar served by family welfare assistants. The original sample consisted of 5,600 rural women of reproductive age who were surveyed by trained interviewers every 90 days between 1982 and 1993. The interviewers collected information on women's background characteristics in 1982 (including husbands' educational level) and compiled longitudinal panel data on contraceptive use, the number of visits received from female welfare assistants in the past 90 days, and demographic events (such as births, deaths and migrations) since the last interview.<sup>24</sup> The project included two cross-sectional surveys that investigated women's autonomy and status within their households: the Women's Status Survey (WSS), conducted in 1988, and the In-Depth Survey (IDS), conducted in 1993.

Of the original sample, 602 women were displaced from their homes by severe flooding in 1988 and a further 1,215 left the study areas or were lost to the study during the 11 years of the longitudinal survey (e.g., because of migration or death) or did not participate in the WSS and IDS for these reasons or because of temporary absence. Hence, we analyzed data from the remaining 3,783 women.

### Analysis

To analyze the relationship between exposure to family welfare assistants and women's status, we followed the methodology proposed by Balk,<sup>25</sup> using longitudinal data on doorstep visits from the recurring interviews and data on

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\*This initiative has now been renamed the Operations Research Project.

**TABLE 1. Background characteristics of a cohort of women and of all women participating in the Maternal and Child Health–Family Planning Extension Project, 1982, and program characteristics of the cohort, 1982–1993**

Characteristic	Cohort (N=3,783)	All (N=5,600)
<b>BACKGROUND</b>		
<b>Means</b>		
Age (yrs.)	29.2	30.2
Education (yrs.)	1.5	1.4
Husband's education (yrs.)	3.0	3.0
Household dwelling area (sq. ft.)	254.9	250.5
<b>Percentages</b>		
Non-Muslim	13.2	14.4
Work outside home	37.1	25.9
Desire no more children	62.5	69.0
Own a radio	29.3	21.8
Own a tube well	95.7	72.8
Live in Abhoynagar	46.0	42.9
<b>PROGRAM</b>		
<b>Means</b>		
No. of visits from a female welfare assistant, 1988–1993	16.6	na
No. of interviews, 1988–1993	16.5	na
No. of interviews in which contraceptive use was reported, 1982–1988	2.5	na
No. of interviews in which contraceptive use was reported, 1988–1993	6.4	na

Note: na=not applicable.

women's status from the two cross-sectional surveys. We hypothesized that female clients who received more visits from the outreach workers were more likely than those receiving fewer visits to experience an increase in their status.

We used WSS and IDS data to determine clients' social status in 1988 and 1993, respectively. We assigned women a score of one (for high status) or zero (for low status) on each of 42 indicators (23 from the WSS and 19 from the IDS) and calculated the proportion of women with high status at the time of each survey. However, because the survey instruments used in the WSS and IDS differed, only four indicators were common to both. Therefore, we constructed two multivariate regression models: In the first, the depen-

\*In the first model, women's status at the end of the study period is represented by the regression equation  $w_{it} = (\alpha + \sum_{j=1}^J \beta_j s_{jio} + \gamma_1 \sum_{k=1}^K x_{ik} + \gamma_2 \sum_{k=1}^K c_{ik} + \gamma_3 \sum_{l=1}^L x_{il} + \gamma_4 \sum_{l=1}^L c_{il} + \sum_{m=1}^M \delta_m z_{imo})$ , where  $w_{it}$  = women's status score for individual  $i$  in 1993,  $s_{jio}$  = status indicator of order  $j$  among  $J$  such indicators for individual  $i$  in 1988,  $x_{ik}$  = number of times individual  $i$  was interviewed during the total of  $K$  interviews possible between 1982 and 1988,  $c_{ik}$  = number of visits from a female welfare assistant reported by individual  $i$  during the total of  $K$  interviews possible between 1982 and 1988,  $x_{il}$  = number of times individual  $i$  was interviewed during the total of  $L$  interviews possible between 1988 and 1993,  $c_{il}$  = number of visits from a female welfare assistant reported by individual  $i$  during the total of  $L$  interviews possible between 1988 and 1993, and  $z_{imo}$  = baseline characteristic of order  $m$  among  $M$  such characteristics for individual  $i$  in 1982.

†In the second model, the natural log of the ratio of the probability that a woman has an increased status ( $pY_{ai}$ ) to the probability that she has an unchanged status ( $pY_{bi}$ ) in 1993 compared with 1988 is represented by the multinomial logistic regression equation  $\ln(pY_{ai}/pY_{bi}) = (\alpha^* + \gamma^* \sum_{k=1}^K x_{ik} + \gamma^{*2} \sum_{k=1}^K c_{ik} + \gamma^{*3} \sum_{l=1}^L x_{il} + \gamma^{*4} \sum_{l=1}^L c_{il} + \sum_{m=1}^M \delta^* z_{imo})$ , where the variables  $x_{ik}$ ,  $c_{ik}$ ,  $x_{il}$ ,  $c_{il}$  and  $z_{imo}$  are defined in model one. A similar equation is used for the analysis of the likelihood that women have a decreased rather than an unchanged status.

dent variable was the overall status score in 1993; in the second, it was the overall change in status from 1988 to 1993 for the four indicators common to the two surveys. Statistical analyses were performed with STATA, version 6.

A multiple regression approach allowed us to control for other determinants of women's status such as socioeconomic and demographic characteristics and previous contraceptive use.<sup>26</sup> We hypothesized that the background characteristics shown in Table 1 influenced women's status, contraceptive use and the interaction between the client and the service provider. We also hypothesized that bidirectional associations existed between contraceptive use and client-provider interaction, between women's status and client-provider interaction, and between women's status and contraceptive use.

Our first analysis used ordinary least-squares regression to examine the association between the number of visits a woman reported having received between 1988 and 1993 and her overall status score (range, 0–19) in 1993, which we calculated by summing her scores for the IDS indicators. Individual status indicators in the WSS were treated as independent variables to control for women's status in 1988. We also controlled for clients' background characteristics in 1982, the reported number of visits received between 1982 and 1988 (and thus the bias created by outreach workers' preference for visiting higher-status clients), and the number of times women were interviewed.\* Regression coefficients were calculated before and after adjustment for clients' contraceptive use to examine if fertility regulation also influenced women's status.

Our second analysis used multinomial logistic regression to examine the association between the number of visits received and overall change in status from 1988 to 1993 for the four indicators that were common to the WSS and the IDS. For each indicator, women were assigned scores of +1, zero or -1 for an increase, no change or a decrease in status, respectively. We calculated the overall status change for each client by adding her four scores (range, +4 to -4). An overall positive score represented a higher status in 1993 and an overall negative score a lower status. Women with an overall score of zero were regarded as having the same status in 1988 and 1993. We examined the effects of the number of visits on the likelihood that a woman experienced an increase rather than no change in status and on the likelihood that she experienced a decrease rather than no change in status. We again controlled for background characteristics, women's status for the other indicators in 1988, visits received before 1988 and number of interviews, as well as contraceptive use before and during the study period.† Model parameters were computed using the generalized estimating equation method of Liang and Zeger.<sup>27</sup>

## RESULTS

### Sample Characteristics

As Table 1 shows, the study cohort and the original sample had similar background characteristics, such as mean age (29 and 30, respectively), mean years of schooling (1.5

**TABLE 2. Percentage of women with high status according to status indicators in the 1988 Women's Status Survey (WSS) and 1993 In-Depth Survey (IDS), by survey**

Survey and indicator	% (N=3,783)
<b>1988 WSS</b>	
Has permission to leave village to	
Take a sick child to a hospital†	41.0
Earn money	13.2
Visit parents	98.7
Visit relatives	99.3
See a movie†	23.5
Obtain family planning method	50.1
Has permission to	
Greet a male nonfamilial visitor†	41.5
Makes decisions about	
Spending money on medicine for a sick child	24.7
Seeing a doctor when sick†	24.1
Keeping a child in school	17.1
Whom/when a daughter should marry	15.3
Spending money she earned	69.9
Spending money her husband earned	7.2
Approves of women in this society who	
Travel on their own	19.1
Earn money working at home	98.6
Work outside home professionally	69.0
Work outside home for survival	63.0
Make decisions about their own or a sick child's medical treatment	65.8
Own property	97.1
Travels	
Outside home	98.4
Outside village	77.4
Unaccompanied	40.5
Without wearing a <i>burka</i> (scarf)	83.4
<b>1993 IDS</b>	
Traveled outside village in the past six months to	
See a movie	5.0
Attend a women's meeting	13.2
Go to a health center	28.3
Go to district headquarters for visit/shopping	26.8
Has permission to leave village to	
Attend a women's meeting	51.3
Go to a health center	90.7
Go to district headquarters for visit/shopping	78.8
Take a sick child to a hospital†	34.9
See a movie†	92.0
Has permission to	
Greet a male nonfamilial visitor†	84.1
Has ever	
Met a male nonrelative in the past six months	56.9
Taken a sick child to hospital by herself	94.1
Usually makes decisions about	
Buying/selling cattle	55.2
Buying/selling land	52.6
Borrowing/lending (cash/kind)	67.3
Going to parent's house	42.1
No. of children to have	89.9
Timing of children's births	90.7
Seeing a doctor when sick†	52.2

†Indicator common to both surveys. Note: Status indicators were in question form; women who answered affirmatively received a status score of one for each indicator.

and 1.4 years) and husband's mean years of schooling of the two groups (3.0 each). The household economic status, as reflected by the floor area of the home and the proportion of women owning a radio, was also comparable, as was the proportion desiring no more children. Selection bias due to sample loss was therefore minimal. Although sample loss affected the proportion of women working outside the home—37% in the final sample vs. 26% in the orig-

inal sample—this difference is unlikely to have changed the direction of the associations revealed by the regression analyses. On average, women in the study cohort received 17 visits from female welfare assistants between 1988 and 1993, or approximately one visit every three months. During this period, women reported in about one-third of the interviews that they practiced family planning.

In 1988, almost all of the 3,783 clients in the study cohort reported having permission to visit parents or relatives, approving of women who earn money at home or who own property, or being able to take trips away from home (97–99%, Table 2). Only small proportions had permission to earn money away from home (13%), decided whether to keep a child in school (17%) or whom or when their daughter should marry (15%), or had a say in how their husband's earnings were spent (7%). In 1993, most respondents reported having permission to leave the village to attend a health center or to see a movie (91–92%), and said they usually decided family size and timing of births (90–91%). In the six months before the survey, however, only 5% had actually left the village to see a movie, and 28% had done so to attend a health center. On the other hand, 94% reported having ever taken a sick child to the hospital by themselves, although only 35% said they had permission to do so. The mean total status score in 1993 was 11.0 (standard deviation, 3.2).

For three of the four indicators common to the two surveys, a larger proportion of women in 1993 than of those in 1988 had a high status score (Table 2). One-fifth of respondents had a higher score in 1993 than in 1988 for the question on whether they were allowed to take a child to a hospital outside the village—that is, they reported being allowed to do so in 1993 but not in 1988 (Table 3). Similarly, one-half reported in 1993 but not in 1988 that they were allowed to greet nonfamilial male visitors or go to the movies outside the village, and two-fifths that they could decide to see a doctor. Small proportions (0.3–10%) of women had lower status scores in 1993 than in 1988 on these four indicators, and 48–72% had no change in scores.

### Multivariate Analyses

As we had hypothesized, contraceptive use—both before and during the study period—was positively associated with women's status in 1993 (Table 4, page 142). In the analysis controlling for contraceptive use, the educational level of clients' husbands and the size of the home were negatively associated with women's status, whereas clients' education, working away from home and owning a tube well showed positive associations. Women with some educa-

**TABLE 3. Percentage distribution of women participating in the Maternal and Child Health–Family Planning Extension Project, by the change in status score between 1988 and 1993, according to status indicator**

Indicator	Increase	No change	Decrease	Total
May take a sick child to a hospital outside the village	19.4	72.2	8.4	100.0
May greet a nonfamilial male visitor	51.2	47.8	1.0	100.0
May see a movie outside the village	51.8	47.9	0.3	100.0
May decide to see a doctor when sick	37.8	51.8	10.4	100.0

**TABLE 4. Coefficients from ordinary least-squares regression analyses examining the association between selected characteristics and women's status in 1993, with and without adjustment for contraceptive use, by type of characteristic**

Characteristic	Contraception controlled for	Contraception not controlled for
<b>Background</b>		
Age	-0.016	-0.009
Education	0.174***	0.177***
Husband's education	-0.039*	-0.033
Non-Muslim	0.104	0.102
Work outside home	0.646***	0.693***
Desire no more children	0.082	0.199
Household dwelling area	-0.002***	-0.002***
Own a radio	-0.059	-0.003
Own a tube well	0.585*	0.611*
Live in Abhoynagar	-0.263	-0.152
<b>Program</b>		
No. of visits from a female welfare assistant, 1982–1988	-0.006	0.002
No. of visits from a female welfare assistant, 1988–1993	0.018	0.033*
No. of interviews, 1982–1988	0.003	0.004
No. of interviews, 1988–1993	-0.225	-0.227
No. of interviews in which contraceptive use was reported, 1982–1988	0.055***	na
No. of interviews in which contraceptive use was reported, 1988–1993	0.047***	na
<b>1988 status indicators</b>		
Has permission to leave village to		
Take a sick child to a hospital	0.669***	0.720***
Earn money	0.407**	0.431**
Visit parents	0.632	0.557
Visit relatives	1.083	1.104
See a movie	0.838***	0.840***
Obtain family planning method	-0.014	0.276*
Has permission to		
Greet a male nonfamilial visitor	0.084	-0.124
Makes decisions about		
Spending money on medicine for a sick child	0.328	0.313
Seeing a doctor when sick	-0.179	-0.210
Keeping a child in school	0.543*	0.544*
Whom/when a daughter should marry	-0.101	-0.037
Spending money she earned	-0.049	-0.043
Spending money her husband earned	0.323	0.361
Approves of women in this society who		
Travel on their own	0.160	0.138
Earn money working at home	-0.650	-0.660
Work outside home professionally	0.502***	0.491**
Work outside home for survival	-0.148	-0.158
Make decisions about their own or a sick child's medical treatment	0.412***	0.470***
Own property	0.146	0.154
Travels		
Outside household†	0.571	0.577
Outside village†	-0.186	-0.156
Unaccompanied	0.503***	0.506***
Without wearing a burka (scarf)	0.386**	0.423**
$R^2$	0.144	0.129
Adjusted $R^2$	0.135	0.121
F value	16.193***	15.013***

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ . †By frequency of travel. Note: na=not applicable.

tion and a job outside the home are likely to be exposed to external, modern influences, and investment in a tube well for a safe water supply may indicate modern views of health and child welfare.

Eight of the 23 status indicators in the 1988 WSS were positively associated with social status, suggesting that autonomy, authority, attitude toward independence, and mobility are valid indicators of women's status. Although we expected women of higher status in 1988 to be more likely than those of lower status to receive visits from family

welfare assistants, visit selection bias was corrected for in the model, so the association between prior status and final status was independent of this bias.

All significant associations between women's status and 1988 status indicators and background factors (except husband's education) remained significant in the analysis that did not control for contraceptive use (Table 4). In addition, when contraceptive use was not controlled for, being able to travel to obtain a family planning method was linked with having a higher status, as was increasing exposure to family welfare assistants. This positive incremental effect of home visits on women's status could not be explained by the selectivity of outreach, thus supporting the hypothesis that household outreach fosters improved status for women. However, because this association was nonsignificant when contraceptive use was controlled for, the influence of outreach on women's status is attributable mainly to the effect of fertility regulation rather than to the effect of the social interaction during the visit. Still, we cannot rule out the indirect role of the contact between a client and a family planning worker on women's status in helping clients to adopt effective fertility regulation.

The results from the multinomial regression analyses shown in Table 5 indicate that only two background factors were associated with experiencing an increased or decreased status by the end of the study period: Women with husbands who had received a primary education were more likely than those with uneducated husbands to have a lower status in 1993 than in 1988. And clients from Abhoynagar were less likely than those in Sirajgonj to have an improved status.

The more visits that women received from family welfare assistants between 1988 and 1993, the more likely they were to experience an increase in status (relative to no change) during that period. In addition, the likelihood of increased status rose with the number of interviews during which women reported contraceptive use between 1982 and 1988. Neither factor was associated with decreased status (relative to no change).

To further examine the effect of contraception on women's status, we repeated the analysis with and without controls for contraceptive use (not shown). Comparison of these results showed that exposure to family welfare assistants had no effect on the likelihood of experiencing an increase or a decrease in status, other than through the indirect effects of visits on contraceptive use. Therefore, the impact of the doorstep delivery program on women's status derives mainly from its impact on fertility regulation; reduced unwanted fertility then likely contributes to an improvement in women's status.

Among the 1988 status indicators, being allowed to visit parents outside the village, having the authority to decide whether to buy medicine for a sick child and having a positive attitude toward women who decide on their or their child's medical treatment were related to having a reduced likelihood of experiencing an increase in status. In addition, having the authority to decide whether to buy medicine for

a sick child was associated with having an elevated likelihood of experiencing a decrease in status (Table 5).

These findings are inconsistent with those reported by Schuler and colleagues, which suggested that household services may prevent improvements in women's status.<sup>28</sup> Their study collected qualitative data from 151 women and 139 spouses in six villages in northern and western Bangladesh served by a total of seven family welfare assistants. The sample was purposively selected to include relatively young, low-parity rural couples of low economic status who were practicing contraception. Selected households had at least one married woman aged 35 or younger with at least one living child; those with couples older than 35 or no couples younger than 35 were excluded, as were those with at least one acre of land. When we applied similar selection criteria to our analyses, results from the first regression model were comparable to those obtained by Schuler and colleagues (not shown), indicating that their study is biased by sample selection criteria.

## DISCUSSION AND CONCLUSION

Our analyses are based on the assumption that measuring the social impact of doorstep services requires statistical modeling of women's status in a large, random sample of women. After adjustment for clients' background characteristics, baseline status, previous visits received and visitation bias, results from our regression analyses support the hypothesis that the household service delivery program in rural Bangladesh leads to gender benefits. In addition, there is no evidence of detrimental gender effects from participation in the program.

Our study shows that use of doorstep family planning services is positively associated with women's status at the end of the study period, and an increasing number of visits is related to an improvement in status. However, gender benefits come from the program's impact on fertility regulation rather than directly from the social interaction involved in a household visit. Although these findings do not demonstrate direct "beyond-supply" social benefits, they suggest that encounters with family welfare assistants indirectly enhance the status of women by fostering reproductive autonomy.

In 1997, the Bangladesh Ministry of Health and Family Welfare abandoned the doorstep approach in favor of a passive approach using community clinics. Recent evidence has established that the fertility transition in Bangladesh has stalled, primarily because of a deterioration in the effectiveness of family planning.<sup>29</sup> The results of our analysis suggest that a deterioration in the effectiveness of fertility regulation may be accompanied by significant effects on women's autonomy, thereby offsetting gains in women's status that would arise if family planning needs were fully met.

In 2003, amid considerable controversy, the Ministry instituted a policy reinstating doorstep services. Given the results of this study, this policy shift can now be reviewed in light of the gender benefits that may arise from the resumption of doorstep service delivery.

**TABLE 5. Coefficients (and standard errors) from multinomial logistic regression analyses examining the association between selected characteristics and the likelihood that a woman's status increased or decreased between 1988 and 1993, by type of characteristic**

Characteristic	Increase vs. no change	Decrease vs. no change
<b>Background</b>		
Age		
<20	ref	ref
20–29	-0.229 (0.222)	-0.550 (0.353)
≥30	-0.362 (0.269)	-0.593 (0.427)
Education		
None	ref	ref
Primary	-0.113 (0.117)	-0.207 (0.186)
>primary	-0.123 (0.186)	-0.244 (0.281)
Husband's education		
None	ref	ref
Primary	0.108 (0.116)	0.389 (0.182)*
>primary	0.165 (0.137)	0.331 (0.215)
Religion		
Muslim	ref	ref
Non-Muslim	-0.188 (0.128)	0.327 (0.184)
Work outside home		
No	ref	ref
Yes	0.081 (0.114)	0.343 (0.196)
Desire more children		
No	ref	ref
Yes	0.000 (0.000)	0.000 (0.000)
Household dwelling area		
Own a radio	0.221 (0.276)	-0.237 (0.534)
Own a tube well		
No	ref	ref
Yes	0.145 (0.104)	-0.085 (0.165)
Residence		
Sirajgonj	ref	ref
Abhoynagar	-1.334 (0.123)***	0.065 (0.215)
<b>Program</b>		
No. of visits from a female welfare assistant, 1982–1988	0.004 (0.011)	0.005 (0.018)
No. of visits from a female welfare assistant, 1988–1993	0.037 (0.013)**	0.016 (0.022)
No. of interviews, 1982–1988	-0.018 (0.019)	0.004 (0.031)
No. of interviews, 1988–1993	-0.049 (0.123)	0.250 (0.343)
No. of interviews in which contraceptive use was reported, 1982–1988	0.043 (0.014)**	-0.005 (0.021)
No. of interviews in which contraceptive use was reported, 1988–1993	-0.015 (0.010)	0.004 (0.016)
<b>1988 status indicators</b>		
Has permission to leave village to		
Earn money	0.003 (0.134)	-0.294 (0.224)
Visit parents	-0.431 (0.102)***	0.214 (0.171)
Makes decisions about		
Spending money on medicine for a sick child	-0.794 (0.116)***	0.858 (0.182)***
Keeping a child in school	-0.282 (0.194)	0.439 (0.264)
Whom/when a daughter should marry	-0.005 (0.196)	0.034 (0.262)
Spending money she earned	-0.072 (0.104)	-0.051 (0.181)
Spending money her husband earned	-0.183 (0.168)	-0.328 (0.246)
Approves of women in this society who		
Travel on their own	-0.061 (0.123)	-0.269 (0.197)
Earn money working at home	0.501 (0.469)	-0.182 (0.724)
Work outside home professionally	0.048 (0.139)	-0.112 (0.229)
Work outside home for survival	-0.142 (0.121)	0.139 (0.194)
Make decisions about their own or a sick child's medical treatment	-0.209 (0.101)*	-0.176 (0.161)
Own property	-0.061 (0.278)	0.594 (0.529)
Travels		
Outside home†	-0.493 (0.370)	-0.363 (0.543)
Outside village†	0.077 (0.112)	-0.009 (0.180)
Unaccompanied	-0.005 (0.103)	-0.197 (0.163)
Without wearing a burka (scarf)	-0.063 (0.136)	0.056 (0.231)
<b>Constant</b>		
	3.500 (2.205)	-5.809 (5.934)
<b>-2 log likelihood</b>		
		4752.35

\*p<.05. \*\*p<.01. \*\*\*p<.001. †By frequency of travel. Note: ref=reference group.

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## RESUMEN

**Contexto:** Estudios cualitativos realizados en Bangladesh, y que evalúan el impacto que tiene en la condición social de la mujer la distribución a domicilio de servicios de planificación familiar han arrojado resultados contradictorios. Dado que estos servicios se han reanudado en Bangladesh en el año 2003, es importante que se reevalúe el impacto social del programa de distribución a domicilio mediante el uso de técnicas cuantitativas.

**Métodos:** Se utilizaron datos longitudinales y de corte transversal, correspondientes a 3.783 mujeres que utilizaban los servicios de distribución de planificación familiar a domicilio en dos distritos rurales de Bangladesh, mediante la aplicación de análisis de regresión logística y de mínimos cuadrados para evaluar el efecto de estos servicios con respecto a los cambios ocurridos en la condición social de la mujer entre 1988 y 1993.

**Resultados:** Según el análisis que controlaba las características de las mujeres, la condición social de la mujer en 1988, el uso previo del servicio y el sesgo de seleccionar los hogares que recibieran las visitas, la distribución domiciliaria está relacionada con la mejoría de la condición social de la mujer entre 1988 y 1993. Sin embargo, este efecto de la distribución a domicilio generalmente se atribuye a la capacidad de la mujer de regular su fecundidad y no a las visitas domiciliarias.

**Conclusión:** La decisión del Ministerio de Salud y Bienestar Familiar de Bangladesh de reanudar los servicios de planificación familiar a domicilio no se va a llevar a cabo en detrimento de la condición de la mujer y puede que hasta llegue a ofrecer beneficios de género para las clientas que se benefician con este programa.

## RÉSUMÉ

**Contexte:** Les études qualitatives d'évaluation de l'impact des services de planning familial à domicile sur la condition sociale de la femme ont produit des résultats contradictoires. Face à la reprise de ces services au Bangladesh en 2003, il importe de réévaluer l'impact social du programme d'apport à domicile, à l'aide de techniques quantitatives.

**Méthodes:** Les données longitudinales et transversales relatives à 3.783 femmes bénéficiant de services à domicile dans deux districts ruraux du Bangladesh sont utilisées dans des analyses standard des moindres carrés et de régression logistique pour évaluer l'effet de ces services sur l'évolution de la condition féminine entre 1988 et 1993.

**Résultats:** Sous contrôle des caractéristiques socioculturelles, de la condition féminine en 1988, du recours antérieur aux services et du biais de sélection des visites, l'approche des ménages se révèle associée à une amélioration de la condition féminine entre 1988 et 1993. Cet effet est toutefois largement attribuable à l'impact des services à domicile sur l'aptitude des femmes à limiter leur fécondité plutôt qu'aux visites à domicile en soi.

**Conclusion:** La décision du ministère du Bangladesh de la Santé et du bien-être familial de relancer les services de planning familial à domicile ne devrait pas être préjudiciable à la condition féminine et peut être associée à certains avantages sexospécifiques au profit des clientes bénéficiaires du programme.

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