Can the Bangladeshi Family Planning Program Meet Rising Needs Without Raising Costs?

By Barbara Janowitz, Matthew Holtman, David Hubacher and Kanta Jamil

Efforts to expand Bangladesh's government-sponsored family planning program to meet the needs of more women while raising overall contraceptive prevalence may increase costs to unacceptably high levels. A 1993–1994 study examined this problem using data for both clinics and home visits. Results show that costs per couple-year of protection are affected by the overlap between the home service delivery and clinic systems, since fieldworkers visit couples of reproductive age in their homes, regardless of couples' method choice or source of supply. For example, in the case of IUDs, 39% of costs per couple-year of protection are accounted for by follow-up home visits, yet some users receiving these visits go to clinics for follow-up services. Furthermore, costs could be reduced if worker productivity improved. For instance, if fieldworkers eliminated unauthorized leave and increased the time they spent working each day from four to five hours, the labor cost per couple-year of protection for the pill would decline by about one-third, from $3.05 to $1.97; similarly, if clinic workers reduced their unused time, the clinic costs associated with IUD use would fall by one-third, from $1.94 to $1.32 per couple-year of protection. Moreover, increased productivity would enable the existing systems to meet the projected demand in 2004.

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Bangladesh is an emerging success story in family planning. In 1975, when the first national survey was conducted, 8% of married women of reproductive age were practicing contraception.[1] By 1983, the proportion had risen to 19%,[2] and in the subsequent 10 years, it more than doubled, reaching 45% in 1993–1994.[3]

Use of modern methods has grown steadily from 14% in 1983 to 36% in 1993–1994. Resupply methods (condoms, injectables and oral contraceptives) have accounted for most of this growth. For example, between 1983 and 1993–1994, the proportion of women using the pill rose from 3% to 17%, and the proportion relying on injectables grew from less than 1% to 5%. By contrast, over the same time period, the prevalence of IUD use increased only from 1% to 2%, and the prevalence of female sterilization grew from 6% to 8%.

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Contraceptive methods are available through a variety of sources. Government and nongovernmental home service delivery programs provide resupply methods. Small fixed health facilities, known as family welfare centers, provide resupply methods and IUDs; satellite (mobile) clinics, which are scheduled once a month in existing facilities in different communities, also offer these methods. Family planning clinics located in *thana* (district) health complexes provide both temporary methods and sterilization. Two categories of workers provide services: family welfare assistants (fieldworkers) in the home service delivery program, and family welfare visitors (clinic workers) in the family welfare centers and thana health complexes. Both types of workers participate in service provision at the satellite clinics.

As the method mix has changed, so has the source of supply. Home service delivery programs provided 42% of resupply methods in 1989, but this share had increased to 70% by 1993–1994. Clinics accounted for a slightly smaller share of the source mix in 1993–1994 than in 1991, while the share of satellite clinics increased slightly.[4]

Despite the family planning program's great success, there are concerns that its expansion to meet the needs of a growing population and to raise contraceptive prevalence may entail unacceptably high costs. Cost increases could be most dramatic in the government home service delivery program. This program employs approximately 4,500 supervisors and 23,500 fieldworkers, who are assigned a geographic area and a specific number of couples whom they are expected to visit every two months, regardless of the couples' choice of contraceptive and method source. Yearly salaries and benefits for personnel in this program total $23 million. (The government hired 10,000 new fieldworkers between 1987 and 1991 in order to reduce the number of eligible couples for whom each worker was responsible. This increase undoubtedly contributed to the changes in both the method and the source mixes.[5])

In the clinic-based program, which encompasses approximately 3,000 family welfare centers and 350 clinics in thana health complexes, salaries and benefits for service delivery personnel and support staff total more than $7 million annually. Ensuring that all facilities and personnel are used as productively as possible is important to prevent unnecessary construction of new facilities or addition of staff at existing sites, which could raise costs. (Since the satellite clinics operate out of existing facilities, such as local schools or homes, and are staffed by fieldworkers and clinic workers earning their regular salaries, these clinics involve no added costs to the program.)

In this article, we synthesize findings on the costs and productivity of both the home service delivery and the clinic programs in order to suggest ways that resources may be used most efficiently. The two service delivery systems cannot be analyzed separately because women are supposed to receive home visits from a fieldworker regardless of their choice of contraceptive method and source. Moreover, important functions of the family welfare assistant include motivating clients to use clinical methods and counseling them about side effects; therefore, the costs of providing clinical methods include costs associated with the home service delivery program.

Previous studies have provided valuable information about the costs of the family planning program in Bangladesh.[6] These

have taken a "top-down" approach, using primarily macro-level data to develop a broad picture of the costs of the program. This approach has the disadvantage of providing too little information about operations at the service delivery level to identify opportunities for improving the system's efficiency. Other studies have collected micro-level observational data (a "bottom-up" perspective) addressing the productivity of service providers.[7] These studies have been useful in documenting work activities, but they do not provide information on costs or on the potential savings that could be realized through changes in work strategies.

Our analyses address both the relationship between provider-level productivity and costs and the effect on costs of having overlapping delivery systems. The impact of increasing provider productivity is examined both at the level of the basic unit of service (i.e., the costs per couple-year of protection if home service delivery and clinic staff increased their work effort) and at the aggregate level (i.e., the costs of modifying the home service delivery program and clinic program to meet increased demand). Overlap is examined by estimating the portion of clinic methods' cost per couple-years of protection that is attributable to the home-visit program.

Methods

Between October 1993 and February 1994, data were obtained on service personnel at different types of government clinics in rural areas. Facilities and employees were chosen randomly, in the following manner.[8] Within each of the country's four "old" divisions (Dhaka, Chittagong, Khulna and Rajshahi), we constructed a sampling frame consisting of thanas with a health complex and at least four family welfare centers. The thanas were listed according to their proximity to each other, and two from each division were selected using a systematic sampling procedure (random selection of a starting thana and application of an appropriate sampling interval). Once a thana was selected, its health complex was included in the study. The family welfare centers in the selected thanas were numbered, and a random sample of four from each was chosen. The inclusion of satellite clinics was dependent on the selection of thana health complexes and family welfare centers and the work schedules of the family welfare visitors. For each of the eight thanas selected for the clinic portion of the study, two neighboring thanas were chosen for the home service delivery portion. By using the original eight thanas as "anchors," we concentrated the work in one geographic location in each division, thereby reducing field costs. The selection of family welfare visitors and supervisors in each thana was done using a simple random sampling procedure.

An observational study was carried out to determine how clinic personnel and fieldworkers spent their time, and this information formed the basis of the calculation of the cost of services per visit. While this measure is easy to compute and to understand, it is not a very useful way of comparing the costs of different methods or delivery systems. Therefore, we examine the costs per couple-year of protection. This measure is based on information about the costs of different types of family planning visits that took place either at a woman's home or at a clinic, the numbers of visits made by fieldworkers and method continuation rates.

Calculating Family Planning Visit Costs

The total cost of a visit includes the costs of contraceptives, supplies, capital and labor. Contraceptive costs were obtained from the U.S. Agency for International Development and UNFPA. Costs of capital items, supplies and construction costs were obtained from government purchase orders.

To determine how workers allocated their time, we began by abstracting information from workers' logbooks to construct a monthly work pattern. The logbooks for 64 fieldworkers and 48 clinic workers were used to calculate the number of days spent in different activities (e.g., home visits, satellite clinic work, meetings and training, authorized annual leave, and services related to aspects of health care other than family planning, such as immunization camps).

Second, surveillance of 32 family welfare assistants and 16 supervisors was conducted to determine the amount of unauthorized leave they take in a typical month.* Workers and supervisors selected for surveillance worked in different areas from each other and from those whose logbooks had been reviewed. (This was to ensure that no worker contributed information to more than one data collection instrument.) Observers recorded whether or not workers left their homes; both those who left their homes and those who did not were asked what kind of work they had done or why they had not worked.

We also conducted surveillance of 36 family welfare visitors (32 at family welfare centers and four at thana health complexes). Observers stationed at the clinics noted whether these workers arrived there and how long they stayed; if workers did not arrive on a day they were scheduled to be at the clinic, observers spoke with other clinic staff to see if the reason for the absence was known.

Third, with the workers' knowledge, an observational study was conducted to determine what types of activities were carried out during the workday. Again, the family welfare assistants and supervisors chosen worked in different areas from each other, as well as from workers included in the surveillance study. Trained female observers accompanied 64 family welfare assistants to the field, for an average of three days each, and recorded their travel time to and from the field and between households, the number of women they contacted, the duration of contact time with clients and whether they provided contraceptives or information about family planning or maternal and child health. Observers also accompanied 16 supervisors to the field for two days each and noted how much time they spent on field visits and on administrative activities, and how much time they spent unoccupied.

Observers spent six days noting the activities carried out by 32 clinic workers (16 at family welfare centers and 16 at thana health complexes), including various types of family planning and maternal and child health services and all other health services. They also obtained information on activities not specifically connected with client visits, such as administrative tasks, time spent on tea and bathroom breaks, and time spent unoccupied (idle time, time with friends or family, and absence for brief periods for personal reasons). Neither the observational study nor the surveillance component included clinic workers' supervisors, since they do not work at the clinics and their role is the focus of less attention among policymakers.

Finally, information was obtained from selected government facilities on the salaries and benefits of fieldworkers and clinic personnel.

Calculating Costs of Method Use

To calculate the cost per couple-year of protection, we added the costs of all home and clinic visits associated with the acceptance and use of a method. For example, a woman may receive a home visit during which the family welfare assistant moti-

*All data collection strategies for this study were approved by a steering/revision committee, headed by and composed largely of officials of the government of Bangladesh, which was a major sponsor of the study. Names of observed workers were never used on data collection forms in order to protect the workers' identities.

Table 1. Monthly labor costs and percentage distribution of costs associated with the provision of family planning services, by activity, according to type of worker, home service delivery program, Bangladesh, 1993–1994

Activity	Fieldworker		Supervisor	
	Cost	%	Cost	%
Total	**$52.11**	**100.0**	**$68.03**	**100.0**
Work time	**30.78**	**59.1**	**24.30**	**35.7**
Home visit	25.15	48.3	0.00	0.0
Meetings, reporting	5.63	10.8	0.00	0.0
Administration	0.00	0.0	24.30	35.7
Leave time	**21.33**	**40.9**	**43.73**	**64.3**
Authorized	10.75	20.6	14.00	20.6
Unauthorized	10.58	20.3	29.73	43.7

vates her to use oral contraceptives, another visit at which she accepts pills and subsequent visits for resupply or follow-up information. Or a woman may be motivated by a fieldworker, but receive her pills from a clinic and obtain resupply from the fieldworker. All of these costs are included.

We then determined the median number of months for which a woman using each method was protected against the risk of pregnancy, to standardize the costs of method use to units of one year. For temporary methods, we calculated the median number of months by applying life-table techniques to 12-month continuation rates; for female sterilization, we used the difference between age 45 and the average age at acceptance from the 1993–1994 Demographic and Health Survey (DHS).[9]

Results

Costs of Home Visits

On days on which the surveillance was carried out, one-quarter of family welfare assistants and more than one-half of supervisors did not work but were not on authorized leave; among the 24 family welfare assistants who left their homes in order to work, the mean length of time spent working or away from home was 3.25 hours. Our findings from the observational component of our study show that on days that fieldworkers went to the field, they spent an average of 3.75 hours working. Thus, it seems that fieldworkers worked longer hours when they knew they were being observed. (While the family welfare assistants' working days are stipulated, their hours per day are not; however, 5–6 hours per day is a reasonable maximum for women working in rural areas.[10]) The workers spent about two-thirds of their time traveling and about one-third with clients. Similar results have been reported in smaller studies.[11]

In all, $52 (78%) of each fieldworker's monthly salary covers the provision of family planning–related costs (Table 1). Of this total, 48% supports time spent making home visits, 11% covers time spent in meetings or making reports, and the remaining 41% is equally divided between authorized and unauthorized leave. For supervisors, whose work is entirely in support of family planning services, monthly costs total $68. Supervisors spent only one-third of their days working; about 44% of their salary covers unauthorized leave.

Family welfare assistants' cost per unit time for home visits was calculated by dividing each of the cost categories listed in Table 1 by the number of minutes the fieldworkers spent per month making home visits. Visits averaged about four minutes in length;* adding travel time increased labor input to 12 minutes per visit. The costs of visits vary from about 25 cents to about 40 cents (not shown).

Costs of Clinic Visits

One in five family welfare visitors who were to be observed did not report to work. On days that they worked, these personnel spent about 4.5 hours at the clinic; of this time, 1.8 hours was spent with clients, including 38 minutes with family planning clients. Family welfare visitors spent about 1.5 hours on supporting tasks and were unoccupied an average of 1.3 hours per day. As with fieldworkers, the number of hours to be worked daily is not specified in clinic workers' job descriptions, but 5.5 hours seems a reasonable minimum;[12] therefore, another hour is classified as "not at [clinic]."

About $16 (25%) of family welfare visitors' salaries and benefits cover family planning activities. Of this amount, a little more than one-third covers time the workers are unoccupied (13%), not at the clinic because they have arrived late or gone home early (10%) or on unauthorized leave (13%); only 18% covers time spent delivering family planning services to clients, and the rest is accounted for by costs of overhead, meetings and training, and authorized leave (Table 2).

Clinic visits for family planning averaged about seven minutes in length. The labor cost of these visits ranges from about 37 cents to $1.69. The full cost (including labor, contraceptives, supplies and capital) ranges from $1.15 to $3.42.

Costs per Couple-Year of Protection

Although clients are supposed to receive six annual visits from family welfare assistants, they actually receive, on average, 3.6 visits.† Our data do not show how the number of visits varies by method. However, using information on the visit patterns shown in the DHS, we estimate that the annual number of visits ranges from two for acceptors of female sterilization to seven for for women accepting oral contraceptives.‡

Table 2. Monthly labor costs and percentage distribution of costs associated with the provision of family planning services by clinic workers, by activity

Activity	Cost	%
Total	**$15.80**	**100.0**
Days at clinic	**8.92**	**56.3**
Providing services	2.87	18.2
Meetings, training	2.09	13.2
Personal overhead*	0.32	2.1
Unoccupied†	2.02	12.8
Arriving late, leaving early‡	1.62	10.3
Days not at clinic	**6.88**	**43.6**
Meetings, training	1.29	8.2
Authorized leave	3.62	22.9
Unauthorized leave	1.97	12.5

*Includes lunch, tea and bathroom breaks. †Includes idle time, absence for short periods for personal reasons and time with friends or family. ‡Difference between 5.5 hours and the time actually spent at the clinic.

• *Effect of delivery system overlap*. Women who use clinical methods or who get resupply methods from a source other than a fieldworker probably do not require six home visits a year. Therefore, one way to

*More than three-quarters of visits lasted less than five minutes. More than half of visits to method acceptors were longer than four minutes, compared with fewer than one-third of visits to nonusers or continuing users.

†In 1993–1994, there were approximately 22 million couples of reproductive age in Bangladesh. There were about 30,000 outreach workers, of whom 77% were government family welfare assistants and 23% were employed by nongovernmental organizations. Assuming that the government fieldworkers covered 77% of eligible couples, or 17 million couples, then 101 million visits were made 4,409 per family welfare assistant. Field workers' logbooks indicated that they spent 15.4 days in the field each month; thus, they would need to make an average of about 24 visits per day to see each client every two months. Our data show that they made about 19 visits per day and spent about 11.4 days per month in the field. Therefore, they likely visit the average client 3.6 times per year, or once every 3.5 months.

‡Calculations based on data from the DHS suggest that the annual number of visits averaged 2.5 (ranging from fewer than two among sterilization acceptors to about five for users of injectables or oral contraceptives). We inflated the method-specific estimates so that they averaged out to 3.6, the estimated annual number based on our findings, and used the adjusted method-specific averages to calculate the cost of follow-up visits associated with each method.

Table 3. Costs per couple-year of protection for oral contraceptives, by type of cost, according to where method was initially provided

Type of cost	Home		Family welfare center	
	Cost	%	Cost	%
Total	**$5.80**	**100.0**	**$6.39**	**100.0**
Clinic acceptance visit	**na**	**na**	**0.70**	**11.0**
Home visit	**3.05**	**52.6**	**2.94**	**46.0**
Motivation	0.40	6.9	0.40	6.3
Acceptance	0.45	7.8	na	na
Resupply	2.20	37.9	2.54*	39.7
Contraceptives	**2.75**	**47.4**	**2.75**	**43.0**

Note: na=not applicable.

reduce costs is to reduce the number of home visits to these women.

Table 3 illustrates how costs of home delivery and clinic provision overlap. The costs per couple-year of protection for the pill total $5.80 if the method is initially provided by a fieldworker and $6.39 if it is initially provided at a clinic. Most of the higher cost is attributable to the inclusion of the clinic acceptance visit, since all pill users receive the same number of home visits, regardless of where they obtain the method. Thus, overlap increases costs.

• *Effect of increasing productivity*. The analysis for family welfare assistants addressed the question of what would happen to costs and to the number of visits if fieldworkers increased their number of workdays by eliminating unauthorized leave or if they increased the time they worked by one hour per home-visit day.*

The elimination of unauthorized leave would add 6.2 workdays to each fieldworker's month, allocated equally across monthly activities. This change alone would increase the number of visits per month from 219 per fieldworker to 293 and would lower the labor cost per couple-year of protection for oral contraceptives by 17%, from $3.05 to $2.51 (Table 4). Alternatively, an extra hour of fieldwork per day would increase the monthly number of visits to 312 and would bring the labor cost down to $2.35. The combination of eliminating unauthorized leave and adding an hour of work would almost double the number of monthly visits (to 417) and decrease the labor cost per couple-year of protection by approximately one-third (to $1.97).

For clinics, we chose for illustrative purposes to assess the impact of an increase in demand for services supported by an increase of 50% of working time at family welfare centers. Table 5 (page 120) shows that the cost per couple-year of protection of clinic visits for IUDs would decrease by about one-third, from $1.94 to $1.32. This is because labor and capital costs would produce a higher volume of visits, thereby lowering the average labor and capital costs per visit.

The total reduction in the costs per couple-year of protection would be only 14% (from $4.54 to $3.92), largely because an important component of the cost, home visits, would remain unchanged. (The cost of contraceptives would also remain the same.) Labor costs are higher for visits made to the homes of IUD acceptors than for visits made by acceptors to clinics. Follow-up visits made to the woman's home account for 39% of the cost per couple-year of protection in the baseline calculation. Since some IUD users will obtain follow-up services from clinics, this demonstates the effect of system overlap.

Table 4. Number of visits a fieldworker makes per month and cost per couple-year of protection for oral contraceptives provided by fieldworkers, assuming various changes to increase productivity

Type of cost	No change	No unauthorized leave	Extra hour of fieldwork per day	Extra hour and no unauthorized leave
Visits per month	**219**	**293**	**312**	**417**
Total costs	**$5.80**	**$5.26**	**$5.10**	**$4.72**
Labor	3.05	2.51	2.35	1.97
Fieldworker	2.41	1.97	1.86	1.55
Supervisor	0.64	0.54	0.49	0.42
Contraceptives	2.75	2.75	2.75	2.75

Projecting Costs to the Year 2004

An important concern for the government of Bangladesh and for donors is how to meet the projected costs of the home service delivery program, and how to modify the program so that it effectively meets the country's needs. We examined a range of scenarios, making various assumptions concerning improvements in efficiency, to project costs to the year 2004.

All of the scenarios assume that between 1994 and 2004, the number of couples of reproductive age will grow by about 40%, from 22 million to 31 million, and that the government program will continue to reach 77% of couples. They also assume that the method mix and, therefore, the number of visits per couple per year remain constant.† Results of these various assumptions are shown in Table 6 (page 120).

Under the first scenario, we assumed that the program will grow proportionately with the number of eligible couples. The result would be a staff of 32,861 family welfare assistants and 6,295 supervisors (compared with 23,500 and 4,500, respectively, in 1994), with annual salaries and benefits totaling $33 million (up from $23 million).

The next scenario examines the effects of eliminating unauthorized leave. Assuming that the amount of contact time spent per client remains constant, this change would lead to an increase in the annual number of home visits made by each family welfare assistant from 2,599 to 3,511. The number of visits made per year to each couple is assumed to be the same; consequently, the numbers of family welfare assistants and supervisors would increase only slightly, and the change in costs would be small. However, the number of eligible couples for whom each family welfare assistant is responsible would be 973 (compared with 719 in 1994).

Another scenario assumes that family welfare assistants increase the number of hours that they work per day from four to five, but that they do not increase the number of days that they work. The results are similar to those of the previous scenario, in that the projected total costs of salaries and benefits would be almost identical to what they were in 1994.

Finally, we examined the impact of both eliminating unauthorized leave and increasing the number of hours worked per day. Under this scenario, costs of salaries and benefits ($17 million) would be considerably lower in the year 2004 than they were in 1994. However, the number of eligible couples per family welfare assistant would roughly double, to 1,382.

Another concern is whether to increase the number of clinics serving women in rural areas. To address this issue, we analyzed the extent to which existing excess clinic capacity could be used to expand

*Alternatively, fieldworkers could spend more time with each client.

†We have made this assumption in order to simplify the cost calculations. However, as the population grows and contraceptive prevalence increases, the method mix may continue to change in favor of resupply methods. Such a shift would likely have little, if any, impact on the number of visits; even if fieldworkers increased the number of visits they make to users of resupply methods, costs would change only if the number of workers increased.

Table 5. Cost per couple-year of protection for IUDs and projected cost if clinic workers' time spent providing services increased by 50%, by type of cost

Type of cost	Current	Projected
Total	**$4.54**	**$3.92**
Clinic	**1.94**	**1.32**
Labor	1.02	0.68
Acceptance	0.59	0.39
Follow-up	0.16	0.11
Removal	0.27*	0.18
Supplies	0.08	0.08
Capital	0.84	0.56
Home visit	**2.02**	**2.02**
Motivation	0.24	0.24
Follow-up	1.78	1.78
Contraceptives	**0.58**	**0.58**

*Calculated from mean time for removal observed at thana health center.

services without building new facilities.* The monthly number of visits per clinic was calculated for current levels of productivity and then projected under the assumption of increased working hours. We assumed that some of the observed work time now spent either unoccupied or away from the clinic would be used to provide services to clients.

We estimate that the current number of visits per month is 29.8 at family welfare centers, 18.8 at thana health complexes and 43.3 at satellite clinics. Using information from the clinic observations of how workers' time is distributed among different activities, we project that with the assumed increase in efficiency, these numbers would rise to 57.1, 23.7 and 65.8, respectively.

Table 7 shows the estimated and projected number of aggregate visits per month for all rural clinics.† More than 1.6 million visits are currently conducted by family welfare visitors who work at rural clinics; the potential number of visits would increase to 2.9 million if unused time were used to provide services to clients, assuming that contact time per client remained constant. Thus, the number of additional visits produced per month depends solely on the amount of unused time at each type of clinic.

Assuming an unchanged contraceptive prevalence rate, the total demand projected for the year 2004 would be 2.3 million visits, or about 80% of the projected number of visits if productivity increased. However, if we assume an increase in the contraceptive prevalence rate, the projected demand rises slightly above the projected number of visits to 3.1 million. Nevertheless, given that fairly conservative assumptions were made regarding the increase in productivity (no decrease in unauthorized leave, no decrease in time spent on administrative tasks and only 50% of unoccupied time used for visits), even with an increase in contraceptive prevalence, the existing number of clinics should be able to accommodate the increase in demand.

Discussion

Before discussing the implications of our results, we should point out some of the study's limitations. Our productivity estimates depended upon secret observations of both clinic providers and fieldworkers. Although the sample for these observations was selected randomly, the sample size is relatively small. Some of the workers who were secretly observed realized that they were being observed and may have altered their behavior; for example, some fieldworkers may have left the house and gone to work even though they otherwise might not have done so.

Similarly, when workers were accompanied to the field or observed in clinics, their performance levels may have been higher if they wanted to impress the observer. Consequently, our results probably present a more optimistic picture of productivity and costs than is the norm. However, as we have pointed out, the findings for observations in which family welfare assistants were accompanied to the field are similar to those of other studies.

Another potential limitation is that the projected costs of the home service delivery program depend on the assumption that the method mix remains constant. However, even if the method mix shifts, contraceptive costs would change, but labor costs would remain the same as long as additional workers were not hired.

The increase in the contraceptive prevalence rate over the last few years is due in large part to the growth of the home service delivery program. At the same time, that growth has undoubtedly also contributed to the proportionate decline in the use of long-acting and permanent methods and to the lack of use of clinics. Now that the program is maturing, ways that it might be improved need to be considered, including changes in both the clinic and the home service delivery programs.

Although the increase in contraceptive use has led to a fall in the total fertility rate from 6.3 births per woman in the mid-1970s to 4.2 in 1990,[13] the population will continue to grow substantially over the next decade. If the current program structure is maintained, 32,861 family welfare assistants and 6,295 supervisors will be needed by the year 2004. Given that donor resources are unlikely to keep pace with costs, decisions will need to be made as to how to cut costs while maintaining the quality of care. Thus, the government of Bangladesh needs to consider how to strengthen management in order to increase performance levels of fieldworkers and supervisors.

Our calculations show that if fieldwork-

*Our analysis is meant to be illustrative. The example ignores differences in the distribution of unproductive time by clinic and by time of day, and does not address whether clinics are easily accessible. Our data show that the average user of a rural clinic spends about an hour in transit to and from the clinic. However, we have no information on whether travel time constituted a barrier for women who did not use clinics. (See: S. Kabir, "Client Costs for Family Planning Services Delivered at Fixed Clinic Facilities in Bangladesh," in Population Council, *Key Issues in Family Planning Service Delivery in Bangladesh*, Dhaka, 1997.)

†While the estimated number of visits per day is highest at satellite clinics, the monthly total is highest at family welfare centers, as family welfare visitors spend more time at these facilities than they do at satellite clinics. The projected increase in the monthly total of visits is greatest for family welfare centers because time available to increase visits is highest at this clinic type.

Table 6. Characteristics of the home service delivery program, 1994, and projections of characteristics in 2004, assuming various changes to increase productivity

Characteristic	1994	2004			
		No change	No unauthorized leave	Extra hour of work per day	Extra hour and no unauthorized leave
No. of home visit days per month per fieldworker	11.4	11.4	15.4	11.4	15.4
No. of home visits per day per fieldworker	19	19	19	27	27
No. of home visits per year per fieldworker	2,599	2,599	3,511	3,694	4,990
No. of home visits for all fieldworkers (in millions)	61.1	85.4	85.4	85.4	85.4
No. of couples (in millions)*	16.9	23.7	23.7	23.7	23.7
No. of visits per couple per year	3.61	3.61	3.61	3.61	3.61
No. of couples per fieldworker	719	720	973	1,023	1,382
No. of fieldworkers	23,500	32,861	24,326	23,124	17,118
No. of supervisors	4,500	6,295	4,660	4,430	3,279
Total salaries and benefits (in millions of $)	23.5	32.9	24.3	23.1	17.1

*Scenarios assume that the number of couples will grow from 22 million in 1994 to 31 million in the year 2004 and that the government program will continue to reach 77% of couples.

Table 7. Number of clinic visits conducted in 1994 and number that would be conducted if unused time were reduced; and projected number of visits required in 2004, by trend in contraceptive prevalence rate; all according to type of clinic

Type of clinic	Conducted in 1994		Required in 2004	
	Actual	Reduce unused time	Constant prevalence	Increased prevalence*
Total	**1,641,740**	**2,912,052**	**2,298,436**	**3,146,548**
Family welfare center	1,110,364	2,125,673	1,554,509	2,128,116
Thana health complex	81,806	103,065	114,528	156,789
Satellite clinic	449,570	683,315	629,398	861,643

*We assumed that prevalence will increase from 46% to 63% (see: A. Barkat et al., *Strategic Directions for the Bangladesh National Family Planning Program, 1995–2005*, Ministry of Health and Family Welfare, Dhaka, 1996), that the demand for services other than family planning will increase in proportion to the demand for family planning services and that the method mix will remain unchanged.

ers were to increase the number of days and hours worked, the costs of the program could remain at the current level (or even fall) over the next 10 years. An important question is whether these changes are realistic, in that they assume an increased work effort on the part of fieldworkers. One way of answering this question is to compare government fieldworkers with fieldworkers from nongovernmental organizations who have similar salaries. Fieldworkers employed by nongovernmental organizations are less likely to take unauthorized leave and therefore spend more days making home visits than government workers;[14] this suggests that it is not unreasonable to expect fieldworkers to work additional days. Moreover, family welfare assistants can increase the number of eligible couples for whom they are responsible by visiting more couples per day.

Not only must management be strengthened, but technical issues concerning the appropriate job of the family welfare assistant also need attention. For example, given that family welfare assistants spend a high proportion of their workdays traveling, alternative service delivery strategies should be considered that can reduce travel time and increase client contact time.

One such strategy would be a cluster visitation system. Another strategy would be for family welfare assistants to reorganize their work plans to target specific subgroups of clients who are most in need of their services. For example, women who get their pills or condoms from a source other than the family welfare assistant and clients who are established users of resupply methods might be contacted less frequently. Women who use clinical methods, especially those who have been sterilized, do not need to be visited frequently.

A reduction in time spent on visits to women requiring less attention will allow more time to be spent with nonusers, new users, and users having side effects and other problems. The government should consider revising visit guidelines to reduce the number of required visits for users of particular methods.

In the last several years, the number of family welfare centers has expanded and the use of long-acting methods has stagnated. As a consequence, there is underutilized capacity in the clinic program. Existing facilities can therefore continue to accommodate client demand as the population of women of childbearing age grows, provided that women have reasonable access to these facilities. Decisions regarding clinic expansion should take into consideration that in the short run, these facilities are underutilized. Moreover, provision of long-acting methods can be expanded at low cost by using the unoccupied time of family welfare visitors. An important concern for the program, therefore, is how to encourage the acceptance and continued use of long-acting methods.

The existence of two overlapping systems of service delivery has important implications for the costs of family planning service delivery. Efforts to reduce costs per couple-year of protection must take this into consideration. For example, acceptors of methods at clinics also receive visits at home, and the home visit costs constitute a significant part of the total costs per couple-year of protection. If the number of home visits for clinic method acceptors were reduced, then the costs per couple-year of protection would decrease. However, this reduction of overlap will not lead to any reduction in overall costs per couple-year of protection for the home-visit program unless the time that the family welfare assistants save is redirected in ways that can increase contraceptive use and continuation rates, or the number of family welfare assistants is reduced.

The current structure of the family planning program has had remarkable success. The program has significantly increased awareness and use of family planning services. Moreover, the expansion of the home service delivery program has led to significant improvements in contraceptive use. However, challenges lie ahead, especially with regard to serving a growing number of married women of reproductive age under conditions of diminishing resources. This article points to areas that can be improved and to strategies that can be used to reduce costs. Changes in strategies and program structure should enable Bangladesh to make gains in contraceptive use while increasing use of long-acting methods without incurring significant increases in program costs.

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Resumen

Los esfuerzos para expandir el programa de planificación familiar patrocinado por el gobierno en Bangladesh, con miras a satisfacer las necesidades de más mujeres a medida que aumenta la prevalencia general de uso de anticonceptivos, podrían incrementar los costos a niveles inaceptablemente elevados. Con el fin de examinar este problema realizamos un estudio en 1993–1994, mediante el uso de datos provenientes de clínicas y de visitas a domicilio. Los resultados indican que los costos de año de protección-pareja se encuentran afectados por la superposición que existe entre el servicio prestado a domicilio y los sistemas de clínicas, ya que se supone que los trabajadores de campo visitan a las parejas en edad reproductiva en sus hogares, fuere cual fuere el método o fuente de suministro que haya escogido la pareja. Por ejemplo, en el caso de los DIU, el 39% de los costos por año de protección-pareja se acumulan por las visitas domiciliarias de seguimiento, aunque algunas usuarias que reciben estas visitas asisten a las clínicas para los servicios del seguimiento. Además, los costos podrían reducirse si aumentara la productividad del trabajador. Por ejemplo, si los trabajadores de campo eliminaran las licencias no autorizadas y aumentaran el tiempo de trabajo diario de cuatro a cinco horas, el costo del trabajo relacionado al año de protección-pareja correspondiente a la píldora declinaría en aproximadamente un tercio, de US $3,05 a US $1,97; en forma similar, si los trabajadores de las clínicas redujeran el nivel de tiempo no utilizado, los costos de las clínicas relacionados con el uso de los DIU disminuirían en una tercera parte, de US $1,94 a US $1,32 por año de protección-pareja. Aún más, una mayor productividad permitiría que los sistemas existentes satisficieran la demanda proyectada para el año 2004.

Résumé

Les efforts visant à étendre le programme de planning familial commandité par le gouvernement au Bangladesh dans le but de satisfaire les besoins d'un plus grand nombre de femmes tout en accroissant le taux global de prévalence contraceptive peuvent faire augmenter les coûts à des niveaux inacceptablement élevés. Une étude effectueé en 1993–1994 s'est penché sur ce problème, utilisant des données pour cliniques ainsi que pour les visites à domiciles. Les résultats montrent que les coûts par couple-année de protection sont influencés par le chevauchement entre la prestation des services à domicile et les systèmes de cliniques, étant donné que les travailleurs locaux visitent les couples en âge de procréation à leur domicile, indépendamment du choix de méthode des couples ou de leur source d'approvisionnement. Ainsi, dans le cas des stérilets, 39% des coûts par couple-année de protection sont pris en compte par les visites de suivi à domicile, bien que certaines de ces femmes visitées utilisent une clinique pour les services de suivi. En outre, les coûts pourraient être réduits si la productivité des travailleurs était améliorée. Ainsi, si les travailleurs locaux éliminaient les congés non autorisés et augmentaient de quatre à cinq heures le temps qu'ils passent au travail chaque jour, le coût de main-d'œuvre par couple-année de protection pour la pilule diminuerait d'environ le tiers, passant de $3,05 à $1,97; de même, si les travailleurs des cliniques réduisaient leur temps inutilisé, les frais cliniques liés à l'utilisation du stérilet diminueraient du tiers, passant de $1,94 à $1,32 par couple-année de protection. En outre, l'accroissement de productivité permettrait aux systèmes existants de répondre à la demande projetée dans l'année 2004.