KEY COST ISSUES IN FAMILY PLANNING SERVICE DELIVERY IN BANGLADESH

The Population Council, Bangladesh

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List of Abbreviations

ACPR	Associates for Community and Population Research
CA	Cooperating Agency (agency cooperating with USAID)
CPR	Contraceptive Prevalence Rate
CYP	Couple-year of (contraceptive) protection
DHS	Demographic and Health Survey
ELCO	eligible couple
EPI	Extended Program for Immunization
FHI	Family Health International
FP/MCH	Family Planning/Maternal & Child Health
FPAB	Family Planning Association of Bangladesh
FPI	Family Planning Inspector
FPMD	Family Planning Management Development
FPSTC	Family Planning Services and Training Centre
FW	Field Worker (NGO employee)
FWA	Family Welfare Assistant (Government employee)
FWC	Family Welfare Centre (Government clinic)
FWV	Family Welfare Visitor (Government employee)
GOB	Government of Bangladesh
IUD	Intra-uterine device
LIP	Local Initiatives Project
MA	Medical Assistant
MCH	Maternal and Child Health
MCWC	Maternal and Child Welfare Centre
MR	menstrual regulation
MWRA	married women of reproductive age
NGO	Non-governmental organization
PDEU	Population Development and Evaluation Unit
PFI	Pathfinder International
SC	Satellite Clinic
TAF	The Asia Foundation
THC	Thana Health Complex
USAID	United States Agency for International Development

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INTRODUCTION

Barbara Janowitz, Family Health International

The family planning program in Bangladesh is well known for its continuing success in increasing awareness and use of family planning. Despite adverse socio-economic conditions, contraceptive prevalence has increased steadily from less than 8 per cent in 1975 to nearly 45 per cent in 1993/94. However, there are concerns that expansion of the program over the coming decade will lead to unacceptably high costs. In order to help the government of Bangladesh (GOB) and non-governmental organizations (NGOs) plan for the future, Family Health International worked with PDEU, ACPR, and USAID/Dhaka to carry out research on the productivity and costs of the family planning program. While the main findings from the study have been published, earlier reports were not able to address some key issues. The purpose of this collection of articles is to examine these issues in order to assist the GOB and NGOs in making decisions about how to allocate resources for family planning.

The main reports and technical reports on the GOB and NGO family planning programs (Rahman *et al.*, 1996a, 1996b; Janowitz *et al.*, 1996a, 1996b) showed that the costs of home service delivery will increase substantially if the current service delivery model is maintained over the next ten years. These programs provide re-supply methods and information about family planning and maternal-child health to women in their homes. Both government and NGO programs are experimenting with alternative models in order to find ways of providing services more efficiently. At the time that the study was designed, FHI met with USAID in order to decide which of these innovative programs to include in the study. Because of cost considerations, only two programs were included. The selected programs are the Local Initiative Project (LIP) and the Swanirvar project.

The LIP program is run by Family Planning Management Development (FPMD). This project utilizes volunteers in addition to the regular Family Welfare Assistants (FWAs) to conduct home visits. The FWAs are then better able to attend to other important activities, such as serving clients who live in areas that are difficult to reach, giving more attention to clients interested in clinical methods and maternal and child health (MCH) services, and organizing Satellite Clinics.

The Swanirvar project, which is managed by Pathfinder International (PFI), uses the services of part-time workers who do not supplement but replace full-time NGO field workers. Other Cooperating Agencies (CAs) in Bangladesh have developed similar programs. The part-time workers in the Swanirvar project are paid a small honorarium and are expected to perform the same home visit functions as the typical NGO field worker (Ahmed, 1996). However, they are responsible for fewer couples, and are expected to work fewer hours and to make fewer home visits per day than the typical NGO worker. This program is expected to reduce costs due to the lower salaries paid to these part-time workers. But it is also necessary to consider the effectiveness of the program. While reductions in costs of service provision are important, programs need to ensure that contraceptive use in the communities that they serve continues to increase.

For both of these innovative service delivery programs, information was obtained on the number and types of visits provided by field workers. The costs of visits of different types are calculated. Projections are made to show how manpower requirements and costs would increase if each of these programs were expanded to serve all women of reproductive age, currently and in the year 2004 (Janowitz and Holtman, this volume).

The GOB and NGO programs make use of rural clinics (such as Family Welfare Centres, or FWCs) to provide family planning, MCH and other health services. The government needs information on how clinics are being used by clients, and on the potential for expansion of clinic services within the present system. Therefore another objective of this research is to provide this information so that the government could determine whether the increased demand for services in the year 2004 could be met without building new clinics. Projections are made of both the increased demand for visits and of the capacity of clinics to provide visits. An increase in utilization of existing capacity, based upon on changes in worker performance, is explored. Demand for clinic visits is calculated using two scenarios: demand increases proportionately with the population of women of reproductive age; or demand increases proportionately with the government's projection of the contraceptive prevalence rate in the year 2004 (Holtman, Janowitz and Jamil, this volume).

While the projected cost of the home service delivery programs of the government and of NGOs is of concern, any decision to change these programs must take into consideration the impact such changes would have on the contraceptive prevalence rate. Although that issue cannot be directly addressed with this research, information was collected on the

content and duration of visits of different types. The GOB and NGO technical reports on the costs of the family planning programs present only a limited treatment of this information. In order to provide a better understanding of some important issues related to the quality of visits, a secondary analysis of these data is presented in which the duration and content of visits is more closely examined according to the type of services provided (Gray, this volume). Both the government and NGOs can use the results as a guideline to improving the performance of field workers if they decide that the quality of their work is not adequate. On the other hand it may be decided that an increased workload may be preferable even if it is not accompanied by an improvement in the quality of visits made to clients. Although other research has pointed to the long-term importance of field workers in increasing the acceptance and continued use of contraception (Phillips *et al.*, 1996), cost-effectiveness is becoming more and more a crucial consideration. It may now be appropriate to redefine the field worker's role if contact with FWs and FWAs has become less critical in stimulating and maintaining demand for family planning.

A final issue addressed by the papers is the cost of contraception to clinic attendees (Kabir, this volume). One perhaps unforeseen result of the home service delivery program has been the slow growth in the use of clinical methods. Most of the growth in contraceptive use has been in use of the pill, and more recently, injectables. Use of the IUD and of sterilization has stagnated. One reason for the changing method mix is the zero cost to the client of obtaining methods that are delivered at home. Although some clinic attendees may not have to make a monetary payment for services, they may have to pay for travel expenses, and they must take time away from other activities to get to the clinic and to return home. As a consequence, obtaining contraceptives at a clinic is more costly than having them delivered at home. The research obtained information on the various costs of obtaining contraceptives including monetary payments for clinic services, travel costs getting to and returning from the clinic, and the time spent in transit. Such information is used to determine the full costs of obtaining services at clinics thereby indicating the burden faced by women who choose to get services at clinics. The research can also be used to indicate whether policies to charge or to charge more for clinic than for home service delivery are efficient. Both the government and NGOs will need to consider whether it is more efficient to collect revenues at clinics or to forego those revenues in order to reduce the size of field worker force by shifting clients from service delivery to clinics.

Findings from these papers and from the main reports for the GOB and for NGO programs will assist policy makers in meeting the challenge of increasing the quantity and quality of services at reasonable cost. These papers point to ways that service delivery can be altered to increase the efficiency of the existing system. For example, increasing client demand could be met by taking advantage of excess capacity, and by substituting part-time for full-time field workers in limited areas (where volunteers could successfully be recruited). Price incentives could also play a role in stimulating the use of clinics and discouraging dependence on field workers. Findings also indicate that field workers may not be needed in all areas, as information provided by them is often minimal, suggesting that a less intensive field worker effort may now be appropriate. Such a change could reduce costs without a negative impact on quality.

During the next few years, Bangladesh will consider how to make changes in the delivery of family planning services. It is hoped that these findings will prove useful in stimulating discussion about future directions for the program.

Chapter One.

SUMMARY OF FINDINGS FROM LOCAL INITIATIVES PROJECT (LIP) STUDY

Barbara Janowitz and Matt Holtman, Family Health International

Description of the Local Initiatives Project (LIP)

This project aims to increase the coverage of eligible couples (ELCOs) by employing volunteers who are expected to visit households not easily reached by family welfare assistants (FWAs). The volunteers are paid a small fee (30-40 taka per month) as reimbursement for travel expenses and are supervised by FWAs with each FWA supervising approximately 15-16 volunteers. The time of FWAs is therefore freed up so that they will be able to make a higher number of visits to a smaller number of ELCOs than does the 'typical' FWA. In addition, the FWA can spend more time on activities designed to motivate ELCOs to use family planning.

Methodology

The data collection for FWAs and FPIs was the same as that carried out for the 'typical' home service delivery program of the government of Bangladesh (GOB). Entries from sixteen logbooks provided information on reported monthly work activities. Secret observations were used to determine whether FWAs and FPIs worked. Eight secret observations of FWAs and four secret observations of FPIs were carried out. Lastly, accompanied observations (48 days for FWAs, 8 days for FPIs) were used to determine daily work activities. It should be noted that no data collection was carried out to obtain information on the activities of volunteers; however, the logbook entries of the FWAs include information on the visits made by the volunteers that they supervise.

In selecting the sample for LIP, we included unions which varied according to whether and when first-year LIP action-plan preparation had been completed. Specifically, each Thana[1] included in the sample was to have at least one union in each of the following categories:

(1) action plan currently being formulated

(2) action plan completed in 1992

(3) action plan completed in 1991

(4) action plan completed in 1990

[1] The terms 'district', 'Thana' and 'union' refer to geographically-defined administrative units.

Thus each Thana selected would contribute four subprojects to the sample, for a total of sixteen. LIP has sub-projects in 67 Thanas, and of these 36 were identified as having unions with these characteristics and were therefore eligible to be included in our sample.

The 36 Thanas were ordered geographically from 1 to 36, beginning in the Chittagong division (12), and followed by Dhaka (8), Khulna (7), and Rajshahi (9). Four Thanas were selected, including two in Chittagong and one each in Dhaka and Rajshahi. LIP initiated activities in Chittagong in 1990, in Dhaka in 1988, and in Rajshahi in 1989. After selection was completed it was discovered that two of the four Thanas actually had fewer than four active subprojects, and so a fifth Thana was selected (Baraigram in Rajshahi division) to complete the sample of 16 subprojects.

In the analysis, a number of comparisons between results obtained for the LIP and those obtained for the 'typical' GOB programs were supplemented with tests of statistical significance. Chi-squared tests were used to test for significant differences in proportions, and two-sample, two-tailed t-tests were used to test for significant differences in means.

Results

Productivity of the LIP compared with the 'typical' GOB program

An important question is whether the combination of service provision by FWAs and volunteers raises contraceptive use in LIP compared with non-LIP areas. Although this question cannot be answered directly with data from this study, our results do suggest that the level of effort is very similar in LIP and non-LIP areas. Table 1.1 compares the reported productivity of LIP and 'typical' areas. FWAs in the 'typical' areas report a similar number of days per month devoted to different activities. The number of ELCOs reported to be visited and the distribution of family planning (FP) versus non-FP visits are also very similar.[2] The following tables explore variations between the two types of programs in greater depth.

[2]The number of visits made to ELCOs may be lower than reported. For example, in non-LIP areas, our calculations from known observations indicate that FWAs make about half the reported number of visits. Similar information cannot be derived for LIP as visit totals include both FWA visits and volunteer visits (although there is some controversy on this point), and no separate data were collected on visits of volunteers. Nevertheless, there is no reason to expect that over-reporting of visits is different between LIP and non-LIP areas.

Table 1.1 FWA Productivity and Monthly Routine by Program		
	LIP (Mean)	**'Typical' GOB (Mean)**
Productivity		
FP Visits per Month	178.8	185.1
Motivation Visits per Month	51.7	91.2
Non-FP Visits per Month	115.4	73.4
Total Visits per Month	**345.9**	**349.5**
Number of Couples Registered	**661.3**	**653.2**
Monthly Routine*		
Home Visit Days	14.7	15.4
SC/EPI Days	4.0	4.3
Meetings/reporting	5.7	4.5
Authorized Leave	6.3	6.3
Number of Logbooks Examined	**16**	**128**

*Mean days per month as recorded in logbook, adjusted to total of 30.5 to account for different numbers of holidays observed.

Table 1.2 (which repeats information from the first column of Table 1.1) shows that there is a wide discrepancy between reported and actual work effort. The first column shows the reported number of days in different activities, and the second column adjusts the reported numbers using information from the secret observations. Because of cost constraints, only 8 secret observations were made of LIP FWAs. Of the 8 LIP FWAs who were secretly observed, only 5 left their homes and worked. The percentage of days of unauthorized leave in LIP (37.5) was slightly higher than the percentage computed from a larger sample (32 observations) of FWAs in the 'typical' GOB program. However, in part because of the limited number of observations for LIP, this difference is not statistically significant. Therefore in this analysis we present the 'best case' scenario, using the percentage of days of unauthorized leave (25 per cent) from the 'typical' program (see Janowitz *et al.*, 1996 a) to adjust the reported number of work days downward. On this basis our calculations indicate that FWAs spend about 12 days in the field making home visits rather than the 15 that they report.[3]

[3]We do not present the results of the Family Planning Inspectors' (FPIs') logbooks here. However, FPIs also work fewer days than they report that they work: on one day out of four of secret observations, an FPI stayed home on a scheduled work day.

Table 1.2
Reported and Adjusted Days per Month for FW Home Visits and Overhead

Activity	Logbook Reports	Adjusted Using Secret Observations
Home Visits	14.7	9.2
Satelite Clinics	1.5	0.9
EPI	2.5	1.5
Meetings/Reporting	5.7	3.5
Authorized Leave*	6.3	6.3
Unauthorized Leave**	--	9.1
Total	**30.5**	**30.5**

* Includes government holidays, annual and sick leave. Number of days of authorized leave is assumed from regular GOB calculations for consistency.
**Estimated using information from regular GOB secret observations (see explanation in text).

Unlike typical FWAs, FWAs in the LIP program spend some of their time supervising volunteers in addition to making home visits. Table 1.3 provides information on how work time is divided between travel time to the field and other work activities. Most of the days on which FWAs were observed were spent making home visits and the time that they worked was similar to that of FWAs in the typical GOB program. On days that supervision of volunteers was added to the job of making home visits, work time was longer by about an hour. On days in which FWAs only supervised volunteers the work day was only 1.5 hours, but FWAs worked 3.1 hours on days when they did home visits in combination with SC or EPI work.

Table 1.4 compares the division of the day between travel and client contact time according to whether the FWA worked in a LIP area. As shown in the table, there are some small differences in the distribution of time between travel and contact time. FWAs in LIP spend significantly less time travelling to and from the field ($p < .05$), perhaps reflecting the fact that FWAs in LIP make home visits to villages closer to their homes while the volunteers that they supervise visit those households further from the homes of the FWAs. However, FWAs in LIP spend more time traveling between households. Finally, the time spent with clients is only slightly more than one hour, which is even lower than the time spent by the 'typical' FWA. This difference was not significant. It should also be noted that the average number of clients contacted per day on home visit days is similar in the two programs, 19.1 in non-LIP areas and 18.4 in LIP areas (data not shown).

Table 1.3
Time Spent (in hours) on Different Activities by Type of Work Performed

Activity	Type of Work			
	Home Visits Only	Home Visits/ Supervision of Volunteers	Supervision of Volunteers Only	Home Visits and Satellite Clinic/EPI/ Office Work
Home Visits	2.4	2.9	0.0	0.1
Travel to/from field	1.1	1.2	0.0	0.7
Work with Volunteers	0.0	0.5	1.5	0.0
SC/EPI	0.0	0.0	0.0	2.3
Total	**3.5**	**4.7**	**1.5**	**3.1**
Number of Days of Observation*	25	7	6	6

*Excludes one case in which a FW attended a BRAC meeting, and three cases in which FWs took unauthorized leave.

Table 1.4
Total Time (in hours) Spent with Clients and Traveling by FWAs per Day by Program

Activity	LIP		'Typical' GOB	
	Time	%	Time	%
Client Contact	**1.1**	**30**	**1.3**	**34**
Travel	**2.4**	**69**	**2.4**	**66**
- to/from field	1.1	31	1.4	36
-between household	1.3	39	1.0	29
Total	**3.5**	**100**	**3.7**	**100**

It is also interesting to note that the number of home visits made by FWAs in LIP areas is clearly lower than in non-LIP areas. In LIP areas, home visits were conducted on 32 of 48 days (67 per cent), and only home visits were conducted on 25 days or 52 per cent (refer to marginals of Table 1.3). As stated above, the average number of visits per day for LIP is 18.4. Note, however, that this is true only for days on which some home visits were made. The overall mean visits per day is 595/48=12.4. The average number of visits per day for non-LIP FWAs is higher. Of the 192 days on which observations were made with the

workers' knowledge (see Janowitz *et al.*, 1996a), some home visits were carried out on 84 per cent of those days, and only home visits were done on 79 per cent of those days. There were a total of 3,029 home visits or 15.8 per day.

Table 1.5 provides information on the contraceptive use status of women contacted by FWAs in LIP and non-LIP areas. The distributions are similar in terms of the division between clients who accept or use re-supply methods, clinical methods, or who are users of traditional methods or non-users. However, the proportion of women who are pill users is significantly higher in LIP areas than in 'typical' GOB project areas ($p < .01$).

As shown in Table 1.6, the proportion of clients who received a method during the observed home visits was lower in LIP areas as compared with other GOB areas. On the other hand, the proportion of clients who received information about FP or MCH was higher in LIP compared with non-LIP areas.

Table 1.7 provides a more detailed analysis of services received by contraceptive use status of clients. Of all OC users, 57 per cent received supplies, while 24 per cent received neither information nor supplies. Among IUD users, the majority received information on family planning, but only a small minority of sterilization users, as in non-LIP areas, received FP information. Table 1.8 compares services received by OC users in LIP and non-LIP areas. OC users in non-LIP areas were more likely to receive supplies (64 per cent) than OC users in LIP areas (57 per cent) and this difference was statistically significant ($p < .05$). However, the percentage of OC users who received no information was lower at a statistically significant level in LIP areas compared with non-LIP areas ($p < .01$). Similarly, as shown in Table 1.9, the per cent of condom users that received supplies in the LIP areas was significantly lower (45 per cent) than in non-LIP areas (66 per cent) ($p < .05$). The percentage of condom users who received no information was slightly higher in LIP, but this difference was not significant. Finally, Table 1.10 provides information similar to that in Table 1.8 with the comparison between non-users in the different project areas. The difference in the percentage of non-users receiving no information was not significant.

Table 1.11 shows the average contact time according to contraceptive method used for LIP and non-LIP areas. Overall, the average amount of time spent with a client is similar, 3.8 minutes in LIP areas and 4.0 minutes in non-LIP areas. Only among new acceptors did LIP FWAs spend significantly less time with than did 'typical' FWAs ($p < .05$).

Table 1.5
Distribution of Visits Made by FWAs by Contraceptive Use Status of Client by Program

Type of Visit	LIP %	'Typical' GOB %
Methods available through home service delivery program		
OC Acceptor	4.7	3.0
Condom Acceptor	0.5	0.8
Injectable Acceptor	0.1	0.2
OC User	28.5	35.2
Condom User	6.5	4.8
Injectable User	7.9	8.4
Subtotal	**48.2**	**52.4**
Methods available through other sources		
IUD User	5.6	4.5
Sterilization User	9.3	8.9
Norplant User	0.0	0.0
Subtotal	**14.9**	**13.4**
Non-User/Traditional Method User	**36.9**	**34.1**
Grand Total	**100.0**	**100.0**
Number of visits observed	572	3,029

* Excludes 23 cases with missing values.

Table 1.6
Percent Distribution of Visits by FWAs by Whether Contraceptives were Supplied, by Topics Discussed, by Program

	LIP %	'Typical' GOB %
Supply	**23.8**	**28.3**
FP & MCH	1.5	0.9
FP Only	8.6	5.8
MCH Only	2.8	2.4
No FP, No MCH	10.9	19.2
No Supply	**76.2**	**71.7**
FP & MCH	7.7	5.0
FP Only	23.4	19.9
MCH Only	10.1	13.4
No FP, No MCH	35.0	33.5
Grand Total	**100.0**	**100.0**
Number of visits observed	**595**	**3,029**

Table 1.7
Percent Distribution of Visits by FWAs to Contraceptive Users and Acceptors by Whether Contraceptives were Supplied and by Topics Discussed

Type of Visit	Resupply Methods			Clinical Methods	
	Injectable %	OC %	Condom %	IUD %	Steriliz-ation %
Supply	**17.4**	**56.8**	**45.0**	**0.0**	**0.0**
FP & MCH	4.3	3.1	0.0	0.0	0.0
FP Only	10.9	16.8	7.5	0.0	0.0
MCH Only	0.0	3.7	0.0	0.0	0.0
No FP, No MCH	2.2	33.2	37.5	0.0	0.0
No Supply	**82.5**	**43.2**	**55.0**	**100.0**	**100.0**
FP & MCH	6.5	2.6	2.5	6.3	1.9
FP Only	56.5	11.1	10.0	68.8	11.3
MCH Only	4.3	6.3	7.5	3.1	1.9
No FP, No MCH	15.2	23.2	35.0	21.9	84.9
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
Number of Visits	46	190	40	32	53

Table 1.8
Percent Distribution of Visits by FWAs to OC Users and Acceptors by Whether Contraceptives were Supplied and by Topics Discussed, by Program

	LIP %	'Typical' GOB %
Supply	**56.8**	**64.4**
FP & MCH	3.1	1.5
FP Only	16.8	12.9
MCH Only	3.7	5.4
No FP, No MCH	33.2	44.6
No Supply	**43.2**	**35.7**
FP & MCH	2.6	0.8
FP Only	11.1	9.5
MCH Only	6.3	2.4
No FP, No MCH	23.2	23.0
Grand Total	**100.0**	**100.0**
Number of visits observed	190	1,156

Table 1.9
Percent Distribution of Visits by FWAs to Condom Users and Acceptors by Whether Contraceptives were Supplied and by Topics Discussed, by Program

Supply/Topic	LIP %	'Typical' GOB %
Supply	**45.0**	**66.5**
FP & MCH	0.0	5.3
FP Only	7.3	15.3
MCH Only	0.0	5.9
No FP, No MCH	37.5	40.0
No Supply	**55.5**	**33.6**
FP & MCH	2.5	0.0
FP Only	10.0	6.5
MCH Only	7.5	2.4
No FP, No MCH	35.0	24.7
Grand Total	**100.0**	**100.0**
Number of Visits Observed	40	170

Table 1.10 Percent Distribution of Visits by FWAs to Non-Users or Users of Traditional Methods of Contraception by Topics Discussed, by Program		
Topics Discussed	**LIP** **%**	**'Typical' GOB** **%**
FP & MCH	16.1	12.4
FP Only	33.2	28.1
MCH Only	22.7	31.7
No FP, No MCH	28.0	27.8
Total	**100.0**	**100.0**
Number of Visits	211	1,033

Table 1.11 Mean Contact Time in Minutes for Visits Made by FWAs by Contraceptive Use Status of Client by Program		
Type of client	**LIP**	**'Typical' GOB**
New acceptor	4.4	7.8
OC User	3.1	3.6
Condom User	6.3	5.0
Injectable User	3.1	3.4
Clinical Method User	3.3	3.4
Non-User/Traditional Method user	3.9	4.2
Total	**3.7**	**4.0**

Costs of the LIP compared with the 'typical' GOB Program

This section provides information on the cost of LIP compared with the typical GOB program. The yearly costs of LIP and the 'typical' GOB home service delivery program are contrasted and projected to the year 2004. As mentioned previously, productivity in the LIP program appears to be no higher than in the GOB program when assessed in terms of clients visited in the previous month (see Table 1.1); thus, while costs may differ, effectiveness will be the same.

Table 1.12 shows projected costs for the 'typical' GOB program and for LIP if it were to substitute for the GOB program. If LIP were to be a nationwide program, 368,000 volunteers would need to be recruited at a cost of 177 million taka per year, thereby making costs almost 20 per cent higher in LIP than in the 'typical' GOB program. Thus, it is not surprising to find that costs would also be much higher in LIP compared with the 'typical' GOB program in the year 2004. In the year 2004, LIP would need to have recruited over half a million volunteers at a cost of 250 million taka per year.

Table 1.12
Cost Estimates and Projections for Expansion of the LIP Program throughout Bangladesh

	1994		2004	
	'Typical' GOB	LIP in all areas	'Typical' GOB	LIP in all areas
Number of home visit days per month	11.4	11.4	11.4	11.4
Number of home visits per day	19	19	19	19
Number of home visits per year	2,600	2,600	2,600	2,600
Number of home visits for all FWs (millions)	59.8	59.8	84.5	84.5
Number of MWRA (ELCOs)(millions)	16.9	16.9	23.8	23.8
Number of visits per MWRA	3.55	3.55	3.55	3.55
Number of MWRAs per FW	735	735	735	735
Number of required FWs	23,000	23,000	32,500	32,500
Salaries and benefits of FWs (million Tk)	740	740	1044	1044
Number of required volunteers	0	368,000	0	520,000
Reimbursements to volunteers (million Tk)	0	177	0	250
Number of Supervisors required	4,600	4,600	6,500	6,500
Salaries and benefits of Supervisors (million Tk)	193	193	272	272
Salaries and Benefits of FWs, volunteers and Supervisors (million Tk)	933	1,109	1,316	1,566

Conclusions

Our results suggest that there is little or no difference in performance between LIP and the 'typical' GOB program. Although no data were obtained on work performance of volunteers, we infer that the main effect of the LIP program is to shift part of the FWAs' workload to the volunteers, without an equivalent increase in other work carried out by the FWAs. We reach this conclusion by comparing the number of visits made per month in both programs. The number is nearly the same.

The FWAs in the LIP program have volunteers to help them make visits. Although we do not know how many visits the volunteers make, the total number of visits reported by volunteers and FWAs together is no higher than the number reported by FWAs alone in the typical program. Moreover, observations of FWAs show that those in LIP actually make fewer visits per month than those in the typical GOB program. This suggests that the volunteers are taking up the FWAs' slack.

FWAs in the LIP program clearly make fewer home visits. An important question is whether the visits they do make are of higher quality. There is no consistent evidence that this is true. For example, OC users in LIP areas were more likely to receive information than those in non-LIP areas, but condom users in LIP areas were slightly less likely to receive information. In any case these differences are small, an observation which is supported by the fact that the average time spent on different types of visits is very similar between LIP and the typical GOB program.

When they are not making home visits, FWAs supervise the volunteers with the intent of improving the quality of visits made by the volunteers. No data were obtained to evaluate the quality of supervision, but on days fully devoted to supervision, work time is very low.

The output of the two programs, reflected both in the reported number of visits and in the informational content of visits, is very similar. However, because costs are higher for LIP it is a less cost-effective program. Our estimates show that if LIP were to be expanded to replace the GOB program, it would cost an additional 177 million taka in reimbursements to volunteers. Similarly, if the LIP program expanded to meet the estimated demand for services in the year 2004, it would cost an additional 250 million taka as compared to the typical GOB program. Given that program performance seems to be no better, this extra cost would not be justified.

Chapter Two.

SUMMARY OF FINDINGS FROM SWANIRVAR STUDY

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Description of the Swanirvar Project

The Swanirvar project, supported by Pathfinder International, employs volunteers as outreach workers in order to reduce the costs of providing family planning (FP) home service delivery to eligible couples (ELCOs). In a typical non-governmental (NGO) program, workers are paid a full-time salary. In contrast, volunteers in the Swanirvar project work part-time and are paid a small honorarium, with the amount of payment dependent on the number of households in their assigned area. The average payment is approximately 450 taka per month. Like other outreach workers, volunteers are expected to visit households and to provide women with re-supply methods, to counsel them and to give them information about family planning (FP) and maternal-child health (MCH). Approximately every 6 volunteers are overseen by a supervisor, who is paid about 1,600 taka per month--a salary which is lower than the average for supervisors in the typical NGO programs.

The general aim of the Swanirvar program is to attain sustainability through grassroots community-level support. In addition to employing volunteers, the program uses a number of other strategies to approach this goal. First, volunteers may recover a significant part of their honorarium by charging discretionary client fees. Volunteers may also encourage women to come to their homes to seek resupply, thus reducing the amount of travelling that the volunteers must do. They promote the use of Satellite Clinics and other health facilities, and efforts are being made to expand the volunteers' range of health services, thus potentially reducing the need for regular outreach workers. Finally, they are involved in a number of organizational and collaborative activities with community members and with health workers, activities which serve to strengthen their social networks (Ahmed, 1996).

Thus the Swanirvar projects are intended to impact on a wide range of activities at the community level. While the full extent of any resulting changes would be very difficult to assess, it is possible to examine some questions of more limited scope. Three immediate issues facing innovative programs like Swanirvar are quality, replicability and sustainability. In order to look at these issues we were interested in comparing the Swanirvar program and

the more typical NGO programs on a number of points. These include the content of FP visits, the present costs of the programs, and the number and cost of workers that would be required in the future to meet growing demand for services.

Methodology

The data collection for volunteers and supervisors was the same as that carried out for the typical home service delivery program of NGOs. Entries from 16 logbooks provided information on reported monthly work activities, and secret observations were used to determine whether volunteers and supervisors worked. Eight days of secret observations of volunteers and 4 secret observations of supervisors were carried out. Lastly, 48 days of accompanied observations of volunteers were used to determine daily work activities.

At the time of data collection all of the 33 Swanirvar subprojects had at least 20 fieldworkers. These subprojects were located in 30 different Thanas.[4] The Thanas were ordered geographically from one to 33, beginning in the Chittagong division (10), and followed by Dhaka (17), Khulna (2), and Rajshahi divisions (4). A sample of four Thanas was drawn using a random start and a systematic sampling interval, and the subproject located in each chosen Thana provided the data for the study. The chosen Thanas were Chagalniya, Islampur, Kalihati and Lalmohon.

In the analysis, a number of comparisons between results obtained for the Swanirvar program and those obtained for the typical NGO programs were supplemented with tests of statistical significance. Chi-squared tests were used to test for significant differences in proportions, and two-sample, two-sided t-tests were used to test for significant differences in means.

[4] The Swanirvar project now has subprojects in 36 Thanas.

Results

Productivity of Swanirvar compared with the 'typical' NGO program

An important issue concerns differences in work performance between volunteers and regular NGO fieldworkers (FWs). Some observed differences in performance include number of days worked per month, number of hours worked per day, number of households visited, and the types of services provided in visits.

Table 2.1 provides information on the monthly work profile of volunteers in Swanirvar and contrasts these data with those of the typical NGO workers. Volunteers in Swanirvar projects report that they spend more days making home visits and fewer days in meetings or in preparing reports than do typical NGO workers.

Table 2.1
FW Monthly Routine by Program

Activity	Mean days per Month	
	Swanirvar	'Typical' NGO
Home Visit Days	19.5	16.7
SC/EPI Days	0.7	1.1
Meetings/reporting	3.0	5.4
Authorized Leave	7.3	7.3
Number of Logbooks Examined	16	64

Table 2.2 shows reported (column 1) and adjusted (column 2) monthly work schedules for volunteers. Of the 8 volunteers who were secretly observed, 7 left their homes and worked.[5] As a consequence, the number of reported and adjusted days spent in work activities is similar. Thus, our calculations indicate that volunteers spend about 17 days in the field making home visits rather than the 19.5 that they report. Column 3 of Table 2.2 shows that the number of days allocated to the home visit program (which covers days spent on home visits as well as days which support such activities) is almost equal; this is because volunteers spend almost all their service delivery time making home visits. The fourth column of Table 2.2 shows that the adjusted days of work for Swanirvar and typical NGO workers is about equal.

[5] Unfortunately cost considerations allowed us to conduct only 8 secret observations.

Table 2.2
Reported and Adjusted Days per Month for Home Visits and Overhead for Swanirvar Volunteers and NGO Workers

	Swanirvar			NGO Workers
	Logbook Reports	**Adjusted Using Secret Observation**	**Home Visits and Overhead***	**Home Visits and Overhead**
Home Visits	19.5	17.1	17.1	16.2
Satellite Clinics	0.2	0.2		
EPI	0.5	0.4		
Meetings/Reporting	3.0	2.6	2.5	4.9
Authorized Leave**	7.3	7.3	7.0	6.8
Unauthorized Leave	--	2.9	2.8	0.7
Total	**30.5**	**30.5**	**29.5**	**28.6**

* Multiplier for 'overhead' (for NGO workers, see NGO report):

$$\frac{\text{Home Visit Days}}{\text{Days for (Home Visit+Satellite Clinics+EPI)}} = \frac{17.1}{17.7} = 0.97$$

**Includes government holidays, annual and sick leave. Number of days of authorized leave is assumed to be equal to that of typical NGO workers.

Table 2.3 compares the division of the day for Swanirvar and typical NGO workers, between travel and client contact time, for days on which home visits are conducted. Swanirvar volunteers spend about half as much time working per day as do typical NGO workers. They spend less time both traveling and with clients.

Not only do Swanirvar volunteers spend less time working and traveling, but they spend less time with each client than do typical NGO workers. Table 2.4 shows that while the typical NGO worker spends about 4.5 minutes with a client, the Swanirvar worker spends about 3.7 minutes. Swanirvar volunteers spend less time with new acceptors, and with injectable and condom continuing users.

Table 2.5 provides information on the contraceptive use status of women contacted by typical NGO workers and by Swanirvar volunteers. Swanirvar volunteers visit a significantly higher proportion of contraceptors and of pill users ($p < .01$). Typical NGO workers also visit a

disproportionately higher percentage of OC users than is found in the general population, but this percentage is even higher for Swanirvar volunteers.

As shown in Table 2.6, the proportion of clients who received a method during the observed home visits was higher in Swanirvar areas as compared with other NGO areas. This difference, however, was not statistically significant. On the other hand, the proportion of clients who received information about FP or MCH was higher in the typical NGO program compared with Swanirvar areas at a statististically significant level($p < .01$).

Table 2.3
Total Time Spent with Clients and Traveling by FWs and Swanirvar Volunteers, per Day

Activity	Swanirvar		'Typical' NGO	
	Time (in hours)	%	Time (in hours)	%
Client Contact	0.9	36	1.5	28
Travel	1.6	64	3.7	71
to/from field	0.8	32	1.8	35
between households	0.8	32	1.9	36
Total	**2.5**	**100**	**5.2**	**100**

Note: Includes days on which only activity was fieldwork.

Table 2.4
Mean Contact Time (in Minutes) for Visits Made by Volunteers and FWs by Contraceptive Use Status of Client

Type of Client	Program	
	Swanirvar	'Typical' NGO
New Acceptor	3.4	8.0
OC User	4.1	4.4
Condom User	3.6	5.5
Injectable User	2.2	3.7
Clinical Method User	3.9	3.6
Non-User/Traditional Method User	3.7	4.4
Total	**3.7**	**4.5**

Table 2.5
Distribution of Visits Made by Swanirvar Volunteers and NGO Fieldworkers by Contraceptive Use Status of Client

	Program	
	Swanirvar %	**'Typical' NGO** %
Methods available through home service delivery program		
OC/Condom Acceptor	1.4	3.0
OC User	38.8	26.4
Condom User	7.4	8.9
Subtotal	**47.6**	**38.3**
Methods available through other sources		
Injectable User	8.4	7.4
IUD User	3.5	4.7
Sterilization User	6.7	6.4
Norplant User	0.0	0.0
Subtotal	**18.6**	**18.5**
Non-User/Traditional Methods User	**33.8**	**43.1**
Grand Total	**100.0**	**100.0**
Number of visits observed	405**	2,835

*Injectables are available through some NGO home service delivery programs.
**Excludes 39 cases with missing information

Table 2.6
Distribution of Home Visits Made by Whether Contraceptives were Supplied and by Topics Discussed by Program

Supply/Topic	Program	
	Swanirvar %	'Typical' NGO %
Supply	**34.6**	**22.7**
FP & MCH	0.5	3.5
FP Only	7.7	5.2
MCH Only	2.5	4.1
No FP, No MCH	23.9	9.9
No Supply	**65.4**	**77.3**
FP & MCH	4.9	12.8
FP Only	12.8	16.4
MCH Only	10.6	15.8
No FP, No MCH	37.1	32.3
Grand Total	**100.0**	**100.0**
Number of visits observed	405	2,835

Table 2.7 provides a more detailed analysis of services received by contraceptive use status of clients. Of all OC users, 62 per cent received supplies, while 27 per cent received neither information nor supplies. Condom users were more likely to receive re-supplies than were pill users, but like pill users, about 3 out of 4 women received no information on FP nor on MCH. Among IUD, injectable, and sterilization users, more than half received no information on FP or MCH, and this percentage was highest among sterilization users.

Table 2.8 compares services received by OC users in Swanirvar and typical NGO areas. OC users in Swanirvar were as likely to receive supplies (62 per cent) as were OC users in typical NGO areas (59 per cent). However, the percentage of OC users who received no information was much higher in Swanirvar compared with NGO areas ($p < .01$). Thus, we have seen that while Swanirvar volunteers are more likely to provide supplies to all women (Table 2.6), they are not any more likely to provide supplies to OC users. The reason for this difference is that Swanirvar volunteers visited a higher proportion of OC users. Once the distribution of couples visited is controlled, Swanirvar volunteers are seen to re-supply a similar percentage

of OC users, but are less likely to provide either information on FP or on MCH to these women.

Table 2.9 provides information similar to that in Table 2.8 with the comparison between non-users in the different project areas. There were no significant differences between the programs in information received.

Table 2.7
Percent Distribution of Visits according to services provided and contraceptive use status by program

Type of Visit	Home Service Delivery Method		Other Method		
	OC %	Condom %	Inject-able %	IUD %	Steriliz-ation %
Supply	**62**	**71**	**0**	**0**	**0**
FP & MCH	1	3	0	0	0
FP Only	6	10	0	0	0
MCH Only	5	7	0	0	0
No FP, No MCH	50	52	0	0	0
No Supply	**38**	**29**	**100**	**100**	**100**
FP & MCH	4	0	3	0	4
FP Only	6	3	27	36	7
MCH Only	1	0	3	7	11
No FP, No MCH	27	26	68	57	78
Total	**100**	**100**	**100**	**100**	**100**
Number of visits	162	31	34	14	27

Table 2.8
Percent Distribution of Visits according to services provided to OC users by program

Supply/Topic	Program	
	Swanirvar %	'Typical' NGO %
Supply	**62**	**59**
FP & MCH	1	8
FP Only	6	15
MCH Only	5	11
No FP, No MCH	50	25
No Supply	**38**	**41**
FP & MCH	4	5
FP Only	6	9
MCH Only	1	6
No FP, No MCH	27	21
Total	**100**	**100**
Number of visits	162	799

Table 2.9
Distribution of Visits according to topic discussed among Non-Users and Users of Traditional Methods by Program

Topics Discussed	Program	
	Swanirvar %	Regular NGO %
FP & MCH	8.0	19.9
FP Only	32.1	19.9
MCH Only	26.3	26.4
No FP, No MCH	33.6	33.9
Total	**100.0**	**100.0**
Number of visits	137	1,222

Costs of the Swanirvar compared with the 'typical' NGO Program

This section provides information on the cost per CYP of Swanirvar compared with the typical NGO program. In addition, the yearly costs of Swanirvar and the typical NGO home service delivery program are contrasted and projected to the year 2004.

Previous sections have shown that there are variations between the two programs in effectiveness. Swanirvar volunteers visit fewer ELCOs per day and are less likely to provide information on any visit. These variations indicate that the quality of care in Swanirvar is below that of the typical NGO program. However, the cost analysis does not take into consideration variations in quality.

Table 2.10 provides information on costs per month and per minute for workers in Swanirvar and in the typical NGO program. Monthly costs are much lower in Swanirvar because payments made to volunteers are lower than those made to full-time workers, and salaries of Swanirvar supervisors are also lower than those of typical NGO supervisors. While the FW cost per minute for a home visit conducted in a Swanirvar area is 0.18 taka, it is almost 4 times as high in the typical NGO program.

Table 2.11 shows similar information for supervisors. Because the number of accompanied observations was very low for Swanirvar supervisors, the salaries of supervisors are allocated assuming that they spend the same number of days working as do the volunteers. The cost per minute for Swanirvar supervisors (0.21 taka) is half that of the typical NGO supervisor.

Table 2.12 shows the cost per CYP for OCs and condoms provided by volunteers and by FWs. Not surprisingly, the cost per CYP for methods provided in the Swanirvar program is far lower than in the typical NGO program. The labor cost per CYP in Swanirvar is only about 25 per cent of that of the typical NGO program. When the cost of contraceptives is added the cost per CYP in Swanirvar is a little over half that in the 'typical' program.

Table 2.10
Cost per Month and Cost per Minute for Fieldworkers by Program

Activity	Cost per Month		Cost per Minute**	
	Swanirvar	'Typical' NGO*	Swanirvar	'Typical' NGO
Home Visit	262	1,431	0.10	0.38
Administration	38	427	0.02	0.11
Leave (authorized)	107	600	0.04	0.16
Leave (unauthorized)	43	58	0.02	0.02
Total	**450**	**2,516**	**0.18**	**0.67**

*Excludes share of salaries allocated to other work activities
**Cost per month divided by monthly minutes spent on home visits=2,502 (Swanirvar), 3,737 (Typical NGO).

Table 2.11
Cost per Month and Cost per Minute for Supervisors by Program

Activity	Cost per Month		Cost per Minute**	
	Swanirvar	'Typical' NGO*	Swanirvar	'Typical' NGO
Work	1,062	2,631	0.14	0.34
Leave (Authorized)	381	828	0.05	0.11
Leave (Unauthorized)	153	0	0.02	0.00
Total	1,600	3,459	0.21	0.45

*Excludes share of salaries allocated to other work activities
**Cost per month divided by number of minutes worked per month for typical NGO supervisor (7,652).

Table 2.12 Estimated Cost per CYP for Methods Provided by Fieldworkers, by Program				
	Swanirvar		'Typical' NGO	
Labor cost for:	**OC**	**Condom**	**OC**	**Condom**
Fieldworker	- -	- -	123.9	96.9
Volunteer	23.6	24.5	- -	- -
Supervisor	14.0	14.6	34.0	26.6
Total Labor	**37.6**	**39.1**	**157.9**	**134.5**
Contraceptives	**110.0**	**152.5**	**110.0**	**152.5**
Grand Total	**147.6**	**191.6**	**267.9**	**287.0**

In considering the costs of the Swanirvar program it is important to examine not only the cost per CYP, but the ability of the program to serve a growing population of clients. As a basis for examining this issue we calculated the number of visits made per ELCO per year for both the Swanirvar and the typical NGO programs. These calculations are presented in Table 2.13. The 'reported' number of visits per ELCO is based on information from the logbooks of volunteers and FWs. The 'actual' number takes into consideration visit information obtained from the secret and known observations.

Table 2.13 shows that Swanirvar volunteers reported that they are responsible for 419 ELCOs on average, while typical NGO workers reported that they are responsible for 678, or two-thirds more. Swanirvar volunteers also reported that they make 419 visits per month, implying that they visit each ELCO monthly or 12 times per year. In contrast, typical NGO workers only reported 364 visits per month, a number which is much lower than the number of ELCOs for which they are responsible, implying that they only visit couples 6.4 times per year.

Our next calculation, based upon observational rather than reported data, shows that the difference between Swanirvar and typical NGO workers in the actual number of visits per year is much smaller (6.8 versus 5.6). Although volunteers report that they make visits on 20 days per month (implying 21 visits per day in order to make 419 visits per month), our observational data indicate that visits occur on fewer days (17) and that visits per day are much lower (14); thus we calculate that only 236 visits per month are actually made by volunteers. Given 236 visits per month and 419 ELCOs in the volunteer's unit, each couple

is visited just over 6 times per year. In contrast the typical NGO workers are much more realistic in their reports of the number of visits made. Observational data show that they make 318 visits per month or 5.6 visits per ELCO per year, a number only slightly lower than the reported number. Thus when adjustments are made using observational data, the number of visits per couple per year in both programs is very similar.[6]

Table 2.13
Reported and Actual Productivity by Program

Activity	Swanirvar		'Typical' NGO	
	Reported	Actual	Reported	Actual
Total Number of Couples	419.4	419.4	678.8	678.8
Total Number of Monthly Visits	419.3	236.0	364.4	317.5
Days per Month Making Home Visits	19.8	17.1	17.0	16.2
Visits per Day*	21.2	13.8	21.4	19.6
Estimated visits per ELCO per year**	12.0	6.8	6.4	5.6

*Visits per day = monthly visits / days making visits
** 'Reported' visits per ELCO calculated using logbook information. "Actual" visits per ELCO calculated from observational data.

Table 2.14 shows costs for the typical GOB program and for Swanirvar if it were to substitute for the NGO program. If Swanirvar were to be a nationwide program, 12,400 volunteers would need to be recruited to replace 7,000 FWs. This assumes that Swanirvar volunteers would continue to visit women 6.8 times per year, as compared to 5.2 times per year for the typical NGO program. The labor cost of employing the necessary volunteers would be 68 million taka, which is less than one-third of the cost of the fieldworkers in the typical NGO program. The labor cost of supervisors would also be considerably lower (39 million taka versus 62 million). Taking into account the projected demand for services in the year 2004, the required number of volunteers would rise to over 17,000 if the Swanirvar program replaced the typical NGO program. Even with this number of volunteers and the 2,840 supervisors needed to support them, the overall cost of this program would be lower

[6]Using a somewhat different methodology, we calculated that the average number of visits per ELCO made by typical NGO FWs was 5.2, or a difference in visits per ELCO of about 8%. The lower number is used in the scenarios in Table 14.

than that of the current NGO program (149 million taka versus 289 million). However, it is not clear that it would be possible to recruit such a large number of volunteers.

Table 2.14
Cost Projections for Expansion of the Swanirvar Program for the Year 2004

	1994		2004
	'Typical' NGO	Swanirvar Replacing 'Typical' NGO	Swanirvar Replacing 'Typical' NGO
Number of home visits for all FWs(in millions)*	26.7	34.7	48.3
Number of MWRA (ELCOs)(in millions)	5.1	5.1	7.1
Number of visits per MWRA	5.2	6.8	6.8
Number of MWRA per FW	729	417	417
Number of required FWs/Volunteers	7,000	12,240	17,040
Salaries and benefits of FWs /Volunteers (in millions of taka)	226.3	67.9	94.5
Number of Supervisors required	1,400	2,040	2,840
Salaries and benefits of Supervisors (in millions of taka)	62.5	39.2	54.5
Salaries and Benefits of FW/ Volunteers and Supervisors (in millions of taka)	288.8	107.0	149.0

*Number of FWs/Volunteers x number of home visits per month per FW/Volunteer (see Table 2.13) x 12

Note: differences in costs would be slightly larger if calculations for the "typical" NGO program assumed 5.6 visits per ELCO

Conclusions

An important limitation of our analysis is that it did not take into consideration differences in the comparative performance of FWs and volunteers in recruiting and maintaining acceptors of contraception. While the cost per CYP is far lower in Swanirvar than in the typical NGO program, there are some indications that the quality of services may be somewhat lower in Swanirvar. However, what is not clear is whether these differences have any impact on contraceptive use, nor whether differences, if they exist, are important enough to merit concern given the very great cost differences of the two programs.

It is apparent that Swanirvar volunteers, like typical NGO workers visit a disproportionately high number of contraceptors; moreover, they are even more likely than FWs to visit users of OCs. Because they visit a smaller percentage of non-users, they may be less effective than are FWs in recruiting women to use contraception. When Swanirvar volunteers visit pill users, they are less likely than NGO workers to provide information, with information provided in only one of four visits. To the extent that women need information and counseling to encourage continued method use, continuation rates in Swanirvar may be lower than in the typical NGO project areas.

The data on work performance of Swanirvar volunteers indicate that their job is primarily to re-supply ELCOs with pills and condoms. They make short visits to clients, they visit a disproportionately high percentage of pill users, and they primarily provide supplies on these visits. Thus, while the Swanirvar program is far lower in cost than the typical NGO program, there may be other less costly ways of providing pills and condoms to established users. Moreover, while it may be feasible to recruit small numbers of volunteers, the prospect of recruiting thousands appears daunting. Even if thousands of volunteers could be recruited, other efforts would be needed to recruit new users of contraception. In addition, NGOs may want to explore other ways of re-supplying contraceptives; for example, depot holders could provide women with pills and condoms. How many depot holders would need to be recruited and what would be the costs are unknown. As noted above, some Swanirvar workers have already been successful in developing a segment of clients who proactively seek services at the volunteers' homes. Program costs in the future may depend on the willingness of women to travel to a depot holder; the longer women are willing to travel, the fewer depot holders (and supervisors) would need to be recruited. In any case, it is apparent that options to provide low cost services of reasonable quality need to be explored.

Chapter Three.

ARE MORE CLINICS NEEDED TO SERVE THE RURAL POPULATION IN BANGLADESH?

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Introduction

As the number of married women of reproductive age and the contraceptive prevalence rate continue to rise, the Bangladesh Family Planning Program will soon be faced with the challenge of finding the resources to meet this demand. Currently the Government of Bangladesh (GOB) contributes 37 per cent of the costs of the family planning program, with the remainder of the costs contributed by donors. Assuming that donors continue to contribute similarly, and that the GOB allocates the current level of 1.6 per cent of its budget to the population sector, it is projected that the program will face a resource gap of nearly $42 million in 2001-02 (GOB, 1996). In recent years, the number of Government fixed site clinics providing family planning and maternal and child health services known as Family Welfare Centres (FWCs) has increased and the Government plans to construct additional FWCs. A disaggregation of the future expenditure requirements shows that the planned construction of FWCs constitutes a major share of costs for the future FP program. If the construction can be delayed, then the resource gap would be greatly reduced in 2001-02 (GOB, 1996a).

An important question is whether existing FWCs can provide services to married women of reproductive age over the next ten years, or whether additional FWCs will be needed. This analysis uses data from the report on 'Productivity and Costs for Family Planning Service Delivery in Bangladesh: the Government program' (Janowitz *et al.*, 1996a), to project the number of clinic places in the year 2004, in an effort to address the question of whether the available clinic resources can meet the FP-MCH service demands in the year 2004.

Objectives

1. To determine the number of visits currently made to rural clinics in Bangladesh which provide family planning services

2. To project the number of clinic visits that would be provided if staff worked longer hours and if unallocated time were used to provide visits

3. To determine the 'required' number of visits in the year 2004 if the demand for visits grew proportionately with the increase in the population of married women of reproductive age (MWRA)

4. To use these results to determine if the supply of visits that can be generated through improved service efficiency will be sufficient to meet the growing demand for visits.

Methodology

As part of the cited study to determine the costs of family planning services, information was obtained on the family planning productivity of three types of rural clinics: FWCs and Thana Health Complexes (THCs), which are both types of fixed facilities, and Satellite Clinics (SCs), which are mobile clinics operated out of community buildings.

Data were collected during the period from October 1993 through February 1994. Clinics were selected to be included in the study using a multi-stage random sampling process. Data were collected by trained observers through observation of clinic activities to determine whether staff reported to work, how long they worked, and what activities were carried our during the work day.

Concerning the day's activities, information was obtained on the average time spent by providers in visits, the time spent in carrying out other tasks such as preparing reports and attending meetings, and the time in which no productive activities were carried out. The number of family planning visits produced at different types of facilities was also recorded. There were a total of 78 days of observation of FWVs at THCs, 86 at FWCs, and 36 at SCs (for more details on the sampling see Janowitz *et al.*, 1996a).

This analysis uses information on activities to estimate the current supply of visits. The projections of future supply are made by assuming a 50 per cent reduction in unallocated time and an increase in the average number of hours spent by service providers at clinics to 5½. Illustrative examples related to productive time focus on FWVs (Family Welfare Visitors), the main providers of methods (excluding sterilization) at all rural clinics.[7]

Future demand for visits is projected by assuming (a) that the population of MWRA grows by 40 per cent by the year 2004 and the required number of visits increases in proportion with the population, and (b) that contraceptive use increases from 46 per cent to almost 63 per cent in 2004. In these projections it is assumed that there is no change in the contraceptive method mix, or in the average number of visits per method user or per user of other services made available by staff who provide family planning services.

Results

Table 3.1 shows the average number of visits per day and the average amount of time per visit at FWCs, THCs, and SCs. THCs provide the least visits (19 per day) while SCs produce the most (43 per day). Conversely, the average visit length at SCs is much shorter, less than three minutes, than at THCs (over six minutes).

Table 3.2 shows the total time spent on providing services to clients. In each type of clinic, an average of two hours is used to provide services to clients. The table also shows that there is considerable scope for providing additional visits as staff are unoccupied for periods varying from over half an hour to close to two hours at the various types of clinics; moreover, staff at FWCs only work about 4½ hours per day. At THCs and SCs, the work day is about 5½ hours (including travel to and from the SC.)

Table 3.3 shows the additional minutes that would be available to see clients if unoccupied time were reduced by 50 per cent and if time spent at clinics increased to 5½ hours. The increase in available service delivery time ranges from about half an hour to over one and a half hours. For FWCs, this would mean close to a doubling of time spent with clients, while the change would be smaller at SCs and THCs. However, even at THCs the change is

[7] The FWV inserts IUDs, provides pills, condoms, and injectable resupply, and provides follow-up visits for all methods. Medical Assistants (MAs) were also observed in the main study, but it was found that they do very little family planning work.

important as an increase in service delivery time of 30 minutes is equivalent to a 25 per cent increase in time spent with clients.[8]

Table 3.1
Visits per Day and Minutes per Visit for FWVs at Rural Clinics

Type of Clinic	Visits per Day	Minutes per Visit
FWC	29.8	3.56
THC	18.8	6.32
SC	43.3	2.67

Table 3.2
Allocation of Time of FWVs at Rural Clinics

Type of Clinic	Service Delivery Time (minutes)	Unoccupied Time (minutes)	Time in Support Activities (minutes)*	Total Time at Clinic (minutes)	Time not at clinic (minutes)
FWC	106.3	74.8	89.1	270.2	59.8
THC	115.4	99.2	105.0	319.6	10.4
SC	119.1	38.3	160.9	318.3	11.8

*Includes time for administration and personal overhead and travel (SC only).

Table 3.3
Additional Time Available to Spend with Clients per Day

Type of Clinic	Reducing unoccupied time by 50%	Spending full 5½ hours at clinic	Total
FWC	37.4	59.8	97.2
THC	49.6	10.4	60.0
SC	19.2	11.8	31.0

[8]These calculations ignore increases in service delivery time that could be accommodated by decreases in time spent on administrative tasks. Data obtained from the observation study of providers is not sufficient to determine whether staff increased time spent on such tasks in order to look busy. Moreover, these calculations do not take into consideration increases in available time that would occur as a result of reductions in unauthorized leave.

Table 3.4 shows the current and estimated total of visits that would be produced at each type of clinic per day if changes were made in productivity of staff. Column 1 shows the current average number of visits per clinic per day while column 2 projects visits assuming that time now spent unallocated and time that should be but is not spent at clinics is used to provide visits. Columns 3 and 4 provide the same information for a one-month period of time. The calculation of the number of visits provided per month uses information on the average number of visits provided per day and the average days per month during which visits are produced. This latter information is available from the report on 'Productivity and Costs for Family Planning Service Delivery in Bangladesh: the Government program' (Janowitz *et al.*, 1996a), and shows that the actual number of work days is lower than the reported number because of unauthorized leave. About twelve days per month are used to provide services at both FWCs and THCs. Our estimates show that only three days per month are spent by FWVs at SCs although they are supposed to spend eight days per month at SCs. Other research has also shown that FWVs spend far fewer days in SC clinic work than they are supposed to. For example, Rashid and others (1992) found that FWVs only spent five days per month at SCs. Moreover, a review of the logbooks of FWVs showed that they reported fewer than four days of SC work per month.[9] In our calculations, we therefore assumed that each FWV devoted only three days per month to work at SCs.

While the estimated number of visits per day is highest at SCs, the monthly total is highest at FWCs as FWVs spend four times as many days at FWCs than they do at SCs. The projected increase in the monthly total of visits is greatest for FWCs because time available to increase visits is highest at this clinic type.

Table 3.4
Estimated and Projected Number of Visits Provided per FWV

	Per Day		Per Month	
Type of clinic	**Current**	**Projected**	**Current**	**Projected**
FWC	29.8	57.1	370.1	708.6
THC	18.8	23.7	233.7	294.5
SC	43.3	65.8	134.2	204.0

[9] This number was reduced to 3 based on other findings in the report. See Janowitz *et al.* (1996a) for more information.

Table 3.5 shows the estimated and projected number of visits per month in all rural clinics. These totals use information on the number of FWCs and THCs operating in the country as well as the estimated number of SC visits made by FWVs who work at both FWCs and THCs. There are approximately 3,000 FWCs and 350 FP/MCH clinics located in THCs. Therefore monthly totals reported in Table 3.4 are simply multiplied by these numbers. For SCs, the monthly totals are multiplied by the estimated number of FWVs who work at FWCs and THCs (which is estimated to be one per facility). Column 1 shows that over 1.6 million visits are currently produced by FWVs who work at rural clinics. This number would increase to almost 3 million if 'available' time were used to produce more visits.

The third column of Table 3.5 shows the projected demand for visits in the year 2004, assuming a constant CPR. The total projected demand is 2.3 million visits, which is only about 80 per cent of the projected supply under the increased productivity scenario. However, if an increase in the CPR is also taken into account in this calculation (column 4), the projected demand rises slightly above the projected supply to 3.1 million.[10] 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), even with an increase in the CPR the present number of clinics should be able to accommodate the increase in demand.

Table 3.5
Estimated and Projected Supply and Demand for Visits per Month for all Rural Clinics

Clinic	Supply		Projected demand for 2004	
	Base	Higher Productivity	Constant CPR	Increased CPR*
FWC	1,110,364	2,125,673	1,554,509	2,128,116
THC	81,806	103,065	114,528	156,789
SC	449,570	683,315	629,398	861,643
Total	1,641,740	2,912,052	2,298,436	3,146,548

*Assumes that CPR increases from 45.8% to 62.7% (see Barkat *et al.*, 1996), that demand for non-FP services increases in proportion to demand for FP services, and that method mix remains unchanged.

[10] This scenario assumes that method mix remains constant and that the demand for non-FP services rises in constant proportion to demand for FP services.

Limitations and Implications of the Analysis

The calculations in this analysis have been made under the assumption that the length of visits and the proportions of different types of visits remain constant. Any changes in these parameters may affect both the supply and the demand for visits.

Consider first the supply side. The average length of visits is very short as shown in Table 3.1. While family planning visits are longer than are MCH visits, even FP visits are fairly short (data not shown). To the extent that efforts are made to improve the quality of care by increasing the amount of time that providers spend with clients, the number of visits that can be supplied by clinics will be reduced.

Changes in the method mix will also affect the capacity of the clinics to provide visits. If the method mix changes in favor of clinical methods like the IUD then the increase in demand for IUD services will initially reduce the supply of visits that can be provided through the clinics, since the mean visit time for an IUD acceptor is relatively high. However, this will also reduce the number of visits needed since clinical method users do not require resupply visits. For example, if IUD acceptors are drawn from the group of current injectable users, the number of resupply visits for injectable users will decrease. Moreover, if IUD continuation rates were to increase, the need to provide FP clinic services to method switchers would decline.

On the demand side, it has been assumed that the demand for services will increase in proportion with the population. To the extent that other factors (exogenous or endogenous) affect the demand for clinic services, this projection may be too high or too low. If the method mix continues to shift in favor of re-supply methods, fewer clinic visits may be demanded as many women will prefer to receive their methods at home. On the other hand, if re-supply through home delivery becomes less widely available, then demand for clinic visits will increase.

As noted above, these projections are made under the somewhat simplistic assumption that the proportionate demand for different services will continue even while the number of MWRA increases. However, because of the present underutilization of clinics it may be important to consider strategies for increasing the demand for these services. It is plausible that the inherent convenience of home delivery has contributed significantly to its

popularity, so it could be argued that building more clinics would stimulate greater demand for clinic services by increasing their accessibility. But it may be that the low quality of clinic services is an even more important determinant of low demand. The short provider-client interaction time observed for most types of visits is one indicator of low quality of care. Other indicators of low quality of care identified elsewhere are that services and information provided to clients at the clinics are less than satisfactory (Islam *et al.*, 1996; Barkat *et al.*, 1994). Another related issue is the lack of supplies and equipment to provide services (Islam *et al.*, 1996), particularly IUD insertions. An inventory of equipment and supplies carried out as part of the cited costing study showed that the resources available at clinics varied widely, suggesting that some supplies and equipment may not have been available for contraceptive service provision at all locations. Before decisions are made to increase the number of facilities, efforts should be made to increase the quality of existing services; spending money to provide additional visits of low quality does not appear to be a good investment. Furthermore, if new clinics are to be built it will be important to compare the relative costs and effectiveness of the different types of clinic, such as fixed-site clinics (for example FWCs) or satellite clinics. These types of facilities differ not only in their cost structures, but in their potential capacity to serve women who do not currently have access to services. Thus the changing demand for services should provide guidance as to how the program is to be expanded.

Chapter Four.

CLIENT COSTS FOR FAMILY PLANNING SERVICES DELIVERED AT FIXED CLINIC FACILITIES IN BANGLADESH

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Introduction

In realizing the national demographic goal of reaching replacement level fertility in Bangladesh by the year 2005, family planning has so far met with laudable success. In 1975, the year the first nation-wide survey was conducted, the contraceptive prevalence rate (CPR) was below 8 per cent. It increased to 19 per cent in 1983, and has risen steadily since to reach a high of 45 per cent in 1993-94. In the process, the total fertility rate has almost halved from 6.3 in the mid-seventies to about 3.4 in 1993-94.

The most salient feature of this rise in CPR has been the more than proportionate growth in the use of modern contraceptive methods. From 5 per cent in 1975, the use rate of modern methods steadily increased to 14 per cent in 1983 and to a high of 36 per cent in 1993-94. Most of the growth in modern method use, however, has been in resupply methods, that is, pills, injectables, and condoms. In 1983, resupply methods accounted for 38 per cent of modern method use while in 1993-94 this figure reached a high of 69 per cent. During this time period use of pills increased from 3.3 per cent to 17.4 per cent, while use of injectables grew from 0.2 per cent to 4.5 per cent and that of condoms from 0.7 per cent to 3.0 per cent. Use of long-acting methods such as IUD and permanent methods, in contrast, changed slightly. While IUD use grew from 1.0 per cent in 1983 to 2.2 per cent in 1993-94, permanent method use increased from 7.4 per cent to 9.2 per cent over the same period.

At the same time that modern method use has shifted significantly towards re-supply methods there has been a change in the source mix of these methods as well. Between 1989 and 1993-94, users of pills and condoms who got their method from a fieldworker increased from 42 per cent to over 65 per cent. This reflected a huge increase from 45 per cent to 70 per cent for pill users and a much smaller rise from 32 per cent to 35 per cent

* The author gratefully acknowledges comments on earlier drafts by Kanta Jamil, Kim Streatfield, Matthew Holtman, and Barbara Janowitz.

for condom users. Although clinics remain the major source for users of injectables, about a third of them received their supplies from a fieldworker in presumably non-clinic settings. In all, 33 per cent of all users and 41 per cent of modern method users, have reported receiving contraceptive supplies from the fieldworker (BDHS, 1993-94).

These achievements, however, have come at the expense of considerable resources. Both the government and the NGO sectors include home delivery service programs where fieldworkers provide resupply methods to the clients at their doorstep and clinic programs which provide resupply methods as well as long-acting methods such as, IUD, tubectomy, and vasectomy. The government annually spends over $22 million employing approximately 23,500 fieldworkers and 4,500 field supervisors in its home service delivery program, and more than $7 million in salaries and benefits alone of its clinic program staff (Janowitz *et al.*, 1996a). For the more smaller NGO sector, comparable figures are $7 million (for 7,000 fieldworkers and 1,400 field supervisors) and $500,000, respectively (Janowitz *et al.*, 1996b).

The present challenge to the program is to not only increase CPR to the replacement level fertility rate over the next decade for what will be progressively increasing cohorts of women but also, in the face of stagnating and even declining donor funds, to do so in a more efficient way. In this context, the quite phenomenal rise in the use of resupply methods and the concurrent increasing reliance on fieldworkers have raised concerns about the longer term effectiveness of the family planning program as well as its future feasibility. If, for example, assuming no change in productivity, the current ratios of fieldworker to ELCOs and fieldworkers to their supervisors are to be maintained in the future, a 40 per cent increase in the number of ELCOs over the ten-year period between 1994 and 2004, from 22 to 31 million, would also increase costs in the home service delivery program by 40 per cent, to $31 million for the government program and $10 million for the NGO program (Janowitz *et al.*, 1996b).

In the face of these concerns about the feasibility and effectiveness of the program, an important policy consideration is to increase use of the clinic program. This means effecting growth both in the use of clinics as method source and in the acceptance and continued use of long-acting methods offered by the clinic program. The potency of the clinic program as method source while naturally implied by the use of long-acting methods offered only at clinics, such as IUD and sterilization, can also be realized by encouraging

more re-supply method users to come to clinics for obtaining supplies of pills, injectables, and condoms.

Clinic programs run by the government and the NGOs serve both the urban and rural areas. The more extensive government program is the major provider in the rural areas where the services of its clinic program are mainly administered by union-level Family Welfare Centers (FWCs) and by MCH-FP units located in the thana-level Thana Health Complexes (THCs). In addition to these fixed clinic facilities, temporary, day-long satellite clinics are organized by government workers at the very basic unit level, usually in areas where FWCs are not present. In urban areas, the government clinic program operates through model clinics that are attached to medical college hospitals and MCH-FP clinics located in district hospitals as well as a number of Mother and Child Welfare Centers (MCWCs). The NGO clinic program constitutes a large number of individual NGO sub-projects which operate one or more clinics throughout the country but are mostly located in large urban cities and towns. The clinics vary in size, number and variety of staff, with only some of the larger ones offering sterilization services. [1]

The home service delivery program and the clinic program can, however, have very different cost implications for the client. Costs are measurable in terms of money as well as in terms of time, which are really opportunity costs for the client. In the home service delivery program, the outreach fieldworker visits the client at her doorstep with supplies of pills and condoms. The potential cost to the client in this case is really only in terms of money cost. This in the government program is zero for pills and only 0.50 taka per dozen for condoms, and in the NGO program, is subject to a broad range of prices which usually reflect a high degree of subsidization.

In the clinic program, on the other hand, the client faces both money costs and time costs. First, as the client has to travel to the clinic in order to access services, she naturally faces travel costs. Money costs of travel are mainly costs incurred on transportation but may include other tangential expenses that may arise from travel, such as, expenses on food for relatively long trips. Time costs of travel is the time spent making the trip. At the clinic facility itself, the client again incurs money and time costs. The money cost component of the costs incurred at the clinic or clinic costs, is user fees the client may have to pay for

[1] At present, there are 3,000 FWCs and 349 MCH-FP units spread all over the country. Satellite clinics are supposed to be organized at the rate of 30,000 clinic days per month. The NGO clinic program consists of about 177 clinics located throughout the country (Haider et al.).

accessing services there and this includes cost of method, cost of provider service, registration fees, and so on. While the government program is again free (except for the nominal price on condoms), the NGO program charges user fees which usually include registration fees as well as some fraction of method and provider costs. The time cost component of clinic costs is the total of the time spent waiting to be seen by a provider and the time spent receiving service from the provider.

Thus, in both the government and NGO settings the cost to the client, both in terms of money and time, of obtaining methods from the home service delivery program can be considerably less than that from the clinic program. It is the objective of this analysis to attempt to quantify, for some types of family planning methods, the cost of clinic visits to the client, both in terms of money and time, in order to get some idea of the client cost of clinic programs.

Data

Reflecting the differences in the extent of coverage provided by government and NGO clinic programs, the rural sample was limited to government facilities only while the urban sample included both government and NGO facilities. In all, eight THCs, fifteen FWCs and one SC were selected for the rural sample, and one model clinic, one MCH-FP clinic, two MCWCs and four NGO clinics were selected for the urban sample. The four NGO clinics were selected from four different sub-projects, one each funded by Family Planning Association of Bangladesh (FPAB), Family Planning Services and Training Center (FPSTC), Pathfinder International (PFI) and The Asia Foundation (TAF).

The data for this part of the study were collected through exit questionnaires whereby all family planning clients visiting the selected clinic sites on a particular day were interviewed immediately after they had received services. The data set thus generated included a total of 362 cases of mainly continuing users and acceptors of the various types of clinical and non-clinical modern contraceptive methods that are currently available in Bangladesh. Insufficiency of cell size, however, has required us to limit our analysis to only three methods, namely, pill, injectable and IUD, and only two provider types, rural and urban, thus reducing the number of total cases available for analysis to 221. Here, rural clinics include THC and FWC, and urban clinics include urban GOB and urban NGO

clinics. Table 4.1 provides a break down of the total number of cases according to family planning method and provider type.

Table 4.1. Family planning clients

Provider Type	Pill	Injectable	IUD	Total
THC	22	25	11	58
FWC	22	26	23	71
Rural	**44**	**51**	**34**	**129**
Urban GOB		20		20
Urban NGO		56	16	72
Urban		**76**	**16**	**92**
Total	**44**	**127**	**50**	**221**

Results

1. Travel costs

Table 4.2 provides mean distance travelled (in miles), mean travel time cost (in minutes) and mean travel money cost (in Taka) for a client making a round-trip visit to the clinic. Mean distance travelled is twice the mean distance between the client's home and the clinic. Travel time cost is the time spent completing a round-trip visit, that is, it is the sum of the time required to travel from the client's home to the clinic and the time required to make the return trip. Travel money cost is the money the client may have had to spend making the round-trip visit. Since, walking is a naturally money cost-less mode of transport, the means have been calculated for two categories of clients, identified here as 'Walk Only' and 'Non-Walk Modes'. The first category includes clients for whom walking had been the only mode of transportation and the second, clients who had used at least one non-walk mode of transportation. The 'Non-Walk Modes' category, thus, includes cases where clients used only one non-walk mode as well as combinations of both two or more non-walk modes and walk and non-walk modes. Non-walk modes that were used by clients in the data set included rickshaw, bus, boat and bullock-cart.

Table 4.2. Mean distance travelled, mean travel time cost and mean travel money cost for 'Walk Only' clients and 'Non-Walk Modes' clients

	Walk Only				Non-Walk Modes			
	N	Mean Distance Travelled	Mean Travel Time Cost	Mean Travel Money Cost	N	Mean Distance	Mean Travel Time Cost	Mean Travel Money Cost
Rural	83	1.3	64.8	0	44	4.9	132.6	9.1
Urban	36	0.6	45.5	0	53	3.1	49.6	10.9

The table shows walking, not surprisingly, was the predominant mode of transport in the rural areas accounting for almost two-thirds of visitors to clinics. In the urban areas the proportion of clients who walked both to and from clinics was 40 per cent.[2] In the rural areas, clients who used at least one non-walk mode of transportation travelled on average almost 4 times the distance walked by walk only clients and required twice the time. In the urban areas, the difference in the two categories of clients is much more striking with clients using non-walk modes of transportation requiring just four minutes more to cover five times the distance travelled by clients who only walked. Not surprisingly, perhaps, in both the categories rural clients recorded greater mean distances travelled and higher mean travel times than their urban counterparts. For clients using at least one non-walk mode of transportation, the per mile money cost of travel was about 1.9 Taka in rural areas and 3.5 Taka in urban areas. While this may indicate urban-rural differences in the costs of transportation, the lower rural mean is also a reflection of urban-rural differences in the distribution of non-walk clients who walked for some part of their trip as well as differences in the distribution of the distances walked. [3]

[2] Our analysis showed rickshaws to be the predominant mode of transport in the urban areas, used by half the total number of clients.

[3] Of the 44 rural non-walk clients 35 or almost 80 per cent said that they walked for some part of the total distance travelled while among the 53 urban non-walk clients 14 or about 26 per cent reported doing the same. The date set, however, does not permit analysis on the distance walked by clients belonging to the non-walk modes category.

2. Clinic costs

Table 4.3 shows means of clinic time and clinic fees for pill, injectable and IUD clients. Clinic time is the total time the client spent in the clinic and includes both waiting time as well as interaction time with a service provider.

Table 4.3. Mean clinic time and mean clinic fees for pill, injectable and IUD clients

	Pill			Injectable			IUD		
	N	Mean Clinic Time	Mean Clinic Fees	N	Mean Clinic Time	Mean Clinic Fees	N	Mean Clinic Time	Mean Clinic Fees
Rural	44	26.9	0	51	43.4	0	34	40.0	0
Urban	-	-	-	76	17.3	2.6	16	21.2	3.6

The table shows that in the rural areas, pill clients, not surprisingly, recorded the lowest clinic time at 27 minutes. Injectable clients and IUD clients spent roughly the same time waiting for and receiving services. In the urban areas, injectable clients recorded the lower clinic time. Clinic times for both injectable and IUD clients were much lower for urban than rural clients.

3. Total costs

Table 4.4 shows the means of time costs and money costs for pill, injectable, and IUD clients visiting clinic facilities. Total time cost is the sum of travel time cost and clinic time cost. Total money cost is the sum of travel money cost and clinic fee. For clients walking to and from clinics, in both rural and urban areas, the money cost of travel is zero. Urban NGOs are the only provider group in the sample that charge clinic fees for services. In the absence of clinic fees for the government clinic program, total money costs for FP clients visiting either rural or urban government clinic facilities will simply be a function of travel related expenses. Thus, in the case of clients who walked to a government clinic and walked back home from there, the total money cost of the visit was zero.

Table 4.4. Time and money costs for pill, injectable and IUD clients							
	N	Mean Travel Time Cost	Mean Clinic Time Cost	Mean Total Time Cost	Mean Travel Money Cost	Mean Clinic Fee	Mean Total Money Cost
Pill							
Rural	44	97.4	26.9	124.3	3.5	0	3.5
Urban	-	-	-	-	-	-	-
Injectable							
Rural	51	97.0	43.4	140.4	3.4	0	3.4
Urban	76	49.1	17.3	66.4	5.8	2.6	8.2
IUD							
Rural	34	61.1	40.0	101.1	2.4	0	2.4
Urban	16	38.9	21.2	60.1	9.4	3.6	13.0

According to the table, urban IUD clients, at just over one hour, recorded the lowest time costs while rural injectable clients, at 2 hours and 20 minutes, the highest. Money costs, on the other hand, were highest for urban IUD clients and lowest for rural IUD clients. Urban IUD clients spent, on average, 9.4 Taka on transportation and 3.6 Taka in clinic fees making one round-trip visit to the clinic. For rural IUD clients, as clinic services are free, the money cost of one round-trip visit was only the travel cost which, on average, was 2.4 Taka. For all groups, travel time cost was the major time cost component accounting for 60 per cent to 78 per cent of total time costs, while travel money cost was the major money cost component accounting for 71 per cent to 100 per cent (in the absence of clinic fees) of total money costs.

Conclusion

The clinic program is a more costly alternative for clients than the home service delivery program, both in terms of money and time. This is true for clients visiting NGO clinics as well as for those visiting government clinics, for even though the government program does not charge user fees, clients visiting government clinics incur travel time and clinic time costs as well as travel money costs. For clients not incurring any money costs, time costs of travel and of waiting for and receiving services are nonetheless present.

Pure cost considerations should work to influence clients towards accessing the home service delivery program over the clinic program for resupply methods that are provided by both programs. Moreover, by motivating clients towards methods provided by the home service delivery program over methods provided by the clinic program, considerations of cost should work to influence clients towards resupply methods over longer acting methods.

Our analysis indicates that for resupply methods such as pills and injectables the clinic program costs the client considerably more than the home service delivery program. For example, in the case of pills, in the government program, whereas the rural client has no money costs and quite negligible time costs for pills obtained from the fieldworker, she incurs, on average, a total time cost of over 2 hours and money cost of 3.5 Taka for each visit to the clinic. For six such visits in a year this translates into 12 hours and 21 Taka of time and money costs, respectively.[4] In the case of injectables, the average money cost of contraceptive protection for one year from a rural government clinic would be almost 14 Taka. For the client who has access to the same method from a government fieldworker at her doorstep, this cost would be zero. For IUD, a method only provided by the clinic program, assuming an average duration of use of two years that require three clinic visits over the time period, our analysis shows that the money cost to the rural client of using IUD would be over 7 Taka.[5] In the urban areas this cost is much more at 39 Taka.

It is important to emphasize, moreover, that clinic costs are calculated for women who have visited clinics. Proximity to a clinic may influence a client's decision to use the clinic program, as many women living greater distances from clinics may find the cost of travelling prohibitively high. Thus, compared with the estimates presented here, costs may be higher for women not attending clinics.

While it is probably true that travel and clinics costs are not the critical factors affecting the client's decision to accept a particular method, the present system creates a financial disincentive to visit clinics. This is especially true for the NGO program which by way of the registration fee charges clients who visit the clinic more than those who obtain similar services from the fieldworker.

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[4] It is assumed that government clinics give clients two cycles of pills on each visit.

[5] Three visits include one each for acceptance of method, follow-up, and removal. The two-year continuation rate is an estimate based on BDHS 1993-94 data.

However, even with the higher costs associated with visiting clinics, clients may be willing to use the clinic program if they feel that the quality of service at clinics is of a higher level. To the extent that quality of care influences the client's program preference, the present cost calculations can be seen as the price, both in terms of money and time, that clients are willing to pay for services offered by the clinic program. As such, some quality of care related measures like reducing waiting time at clinics, by lowering time costs, will actually lower the price for the client of services provided by the clinic program. Other measures like improving the quality of the methods provided at clinics and the quality of provider-client interaction time, while not directly affecting client costs, would make clinic services more attractive to clients, and hence, clients would probably be more willing to pay the higher prices charged for them.

Chapter Five.

QUALITY OF INTERACTION WITH CLIENTS OF FAMILY PLANNING WORKERS IN BANGLADESH

Alan Gray, The Population Council, Dhaka[*]

Introduction

The interactions that take place between Family Welfare Assistants (Government) or Field Workers (NGO) and their clients can be of substantial importance in motivating clients to accept methods of family planning, or to advance to more effective and more appropriate methods than the clients are using. Unique information about the content of discussions with clients of Family Welfare Assistants (Government) and Field Workers (NGO) was gathered in the study on Productivity and Costs for Family Planning Service Delivery in Bangladesh conducted in Bangladesh in 1994 by The Population, Development and Evaluation Unit with technical assistance from Associates for Community and Population Research and Family Health International (Rahman *et al.*, 1996a, 1996b; Janowitz *et al.*, 1996a, 1996b).

As described in the technical reports of the study (Janowitz *et al.*, 1996a: 12-14, 1996b: 8-9), observations of the work done by FWAs and FWs were collected using the logbooks kept by the family planning workers, secret observation and known observation. The known observations included accompanied visits to clients, at which the content of discussions and the total time taken were recorded meticulously. This set of data allows the extent of motivational work to be assessed, and comparisons to be made between Government and NGO workers in the effectiveness of their work. Thirty-two FWAs were accompanied for four days, and the same number for two days, and the same procedure was followed for FWs. This resulted in 5,864 observations of meetings between family planning workers and their clients, of which 5,706 observations have been used for this analysis.[11]

[*] The author gratefully acknowledges comments on earlier drafts by Kanta Jamil, Matthew Holtman, and Barbara Janowitz. I am also grateful to Sayyied Kabir for his work on tabulations for this chapter.

[11] For the purposes of this paper, the cases have been restricted to those where the family planning workers did no work on a particular day other than visiting clients. The clients were 2,202 non-users and 3,504 acceptors or users of family planning methods. Because of missing information about method used for one client of a FW, tables refer to 3,503 acceptors and users of methods.

The job description of Family Welfare Assistants refers to the following items (Haider *et al.*, no date):

> i. Register all eligible couples in her unit of the union in the workers (FWA) register through home visits, and continue updating.
>
> ii. Motivate mothers through home visits for MCH-FP services, and supplies oral pills and condoms to clients at home on a regular basis.
>
> iii. Participate in the EPI program and provide immunizations in the community.
>
> iv. Prepare monthly schedule of activities, assist in organizing satellite clinics.
>
> v. Attend monthly thana meetings, fortnightly FWC meetings, Union/Ward committee meetings, and submits monthly progress reports of her activities.

This description does not contain a large amount of detail, and it is indeed a summary of a much longer duty statement. The analysis of content of discussion which follows can be considered as referring to activities under the general rubric of item ii.

The items of discussion which should, in the interests of quality, be included in interactions with clients will naturally differ from client to client. For instance, motivation to accept family planning might be appropriate in the case of a non-user, or a new acceptor, but it is a less appropriate discussion item for a client who is already using a method. One of the more important items of discussion with users of temporary methods is motivation for the client to use a longer-term or more effective method, and to attend a clinic to obtain such a method. Discussion of side-effects is appropriate for users or acceptors of some methods, for example hormonal methods, and less appropriate for other clients, for example condom users.

Aside from the content of discussions, the length of time taken by a family planning worker in meeting a client provides an additional dimension for assessing the quality of these interactions. While there should be a close relationship between the length of a discussion and its content, the information obtained in the survey giving the time taken taken for meetings provides a means of assessing this relationship. These two dimensions of meetings are treated separately in this chapter, then brought together in a statistical model which estimates of the contribution of different discussion items to determining the length and quality of discussions.

There are three factors which are important in determining what is appropriate and what is not, in interactions between family planning workers and their clients, and also in determining the time taken in meetings. The first important factor is the type of family planning method, because for some methods it would be important to motivate users to move to better methods, while for clients who are already using permanent or long-term methods there is no need to do this. The second factor is whether they are new acceptors or continuing users, and among the users whether a method was provided or not, because provison of a method is also a factor in determining the time taken. The third factor is whether they were seen by a Family Welfare Assistant working for the Government of Bangladesh (GOB) or a Field Worker for a non-Government organization (NGO), not only because there are some differences in what workers in these two categories are expected to do but also because an important aim of the following analysis is to determine whether differences exist in their respective performance of duties they should undertake.

Table 5.1 shows that there were few cases of clients in some of the categories defined by these three factors, especially among new acceptors, defined as clients taking supplies of the specified method for the first time.

Content of interactions with clients

While there are few cases in some of the individual cells shown in Table 5.1, there are enough acceptors and users of some methods to undertake the type of analysis illustrated in Table 5.2, which refers to acceptors and users of oral contraceptive pills.

This table exemplifies the general approach, to the analysis of quality of interaction between field worker and client, which is taken in this chapter. Firstly, the list of discussion content items was scrutinized to determine which were the appropriate items for a discussion with an acceptor or user of oral pills or some other method. The number and percentage of client interactions which actually included these discussion items was then assessed. The list of items may differ for new acceptors and for users, and does so in the case of oral pills.

Table 5.1. Family Planning Clients

	GOB			NGO		
	Acceptor	User		Acceptor	User	
		Supplied	Not supplied		Supplied	Not supplied
Oral pills	84	629	398	49	420	315
Condoms	22	84	54	36	126	118
Injectables	7	16	230	1	1	204
IUDs	-	-	132	-	-	129
Norplant	-	-	1	-	-	-
Tubectomy	-	-	242	-	-	170
Vasectomy	-	-	25	-	-	10
Total	113	729	1,082	86	547	946

Table 5.2. Content of Discussion with FWA/FWs - Oral Pill Acceptors and Users

Type of client and discussion item	GOB	NGO	Total	
Acceptors				
Side effects	24%	25%	24%	
Motivation for family planning	67%	78%	71%	
Family planning	39%	76%	53%	*
Oral pills	31%	59%	41%	*
Mean number of discussion items	2.7	4.5	3.3	*
Number of clients	84	49	133	
Users				
Side effects	6%	6%	6%	
Family planning	12%	27%	18%	*
Motivation for clinic (clinical method)	5%	6%	5%	
Oral pills	1%	2%	2%	*
Higher order methods**	11%	26%	17%	*
Provision of method	39%	43%	41%	
Mean number of discussion items	1.4	2.5	1.8	*
Number of clients	1,027	735	1,762	

* Denotes significant difference between GOB and NGO (95% level of confidence)

** Injection, IUD, Norplant, tubectomy, vasectomy

The number of discussion items which were considered in observing interactions between field workers and their clients was eighteen, but only a small number are important or even relevant in any single meeting with a client. It was felt, for example, that discussion of side effects was an important component of discussion with users and acceptors of a hormonal method such as the oral pill. Indeed, it is included in many discussions with new acceptors, but with few current users. Motivation of the client to use family planning is obviously an important item in the case of new acceptors, but not existing users, and it was the most commonly-found item of discussion with new acceptors. A general discussion of family planning is an item of quality for interactions with clients generally, but it was included in discussions mainly with new acceptors rather than continuing users. Motivating a user to attend a Family Welfare Centre or a clinic, for the purpose of accepting a higher order method, may be appropriate for a current user of oral pills but inappropriate for a new acceptor; few discussions with users actually included this item. Discussion about the use of oral pills is also an appropriate item of discussion, but it was included in the discussions with new acceptors far more than with current users. This could be because pill users are seen with such frequency by the workers that it is unnecessary to discuss their use very frequently.

For many methods of family planning, it is possible to identify 'higher order methods' towards which current users should be motivated in the interests of the client or greater program cost-effectiveness, and it can be seen that a substantial proportion of current users of oral contraceptive pills did have discussion of higher order methods (injection, IUD, Norplant, tubectomy, vasectomy) in their discussions with family planning workers.

It is possible to discern a distinct difference in quality, as defined here, between Government and NGO workers. Certain items were included in discussions by NGO workers much more frequently than by GOB workers. The table shows where these differences were different at the 95 per cent level of statistical significance, using the χ^2 statistic. These differences were: general discussion of family planning; the use of oral pills; and higher order methods. On the other hand, there was no significant difference in the frequency of discussion of side-effects, or motivation to use family planning (in the case of new acceptors) or motivation to attend a clinic (in the case of current users). The differences which are significant are less marked in the case of current users who were not actually supplied a method.

The mean number of discussion items included in meetings (whether important, unimportant or irrelevant) was also higher in the case of NGO workers than for GOB workers. This was the case whether the client was an acceptor or a user, and if a user whether supplied or not. If it is of interest to the reader, the mean number of important discussion items can be obtained by summing the percentages in each column and dividing by 100.

Marked differences between NGO and GOB workers in their discussions with clients can also be seen among acceptors and users of condoms, as shown in Table 5.3, but the differences are not as pronounced as the case of oral pill clients. Note that the list of discussion items is different in this case, with side-effects excluded, and note also that 'higher order' methods are defined differently to include the oral pill. The significant differences between NGO and GOB workers occur for two of the same items as in the case of oral pills, namely general discussion of family planning and discussion of higher order methods. NGO workers include a larger number of items in their discussions with clients than do GOB workers.

There are few acceptors of injectables and few resupply cases, as was shown in Table 5.1, so Table 5.4 shows the content of discussions with all users of injectables. Discussion of side-effects occurs with few users, but more than in the case of the other hormonal method, the oral pill. This is in accordance with actual greater frequency of side-effects in the case of injectables, and may indicate that side-effects are discussed only when they are introduced into the discussion by clients. NGO field workers are significantly more likely than GOB Family Welfare Assistants to discuss higher order methods with injectable users, but still at a very low level. Perhaps the strongest impression from this analysis is that discussions with these clients have little substantive content, but as in the case of pill and condom users, the content of discussion is slightly more varied when NGO workers are involved than when GOB workers meet clients.

Table 5.3. Content of Discussion with FWA/FWs - Condom Acceptors and Users

Type of client and discussion item	GOB	NGO	Total	
Acceptors				
Motivation for family planning	73%	64%	67%	
Family planning	41%	78%	64%	*
Condoms	27%	64%	50%	*
Mean number of discussion items	3.1	5.2	4.4	*
Number of clients	22	36	58	
Users				
Family planning	11%	24%	19%	*
Motivation for clinic (clinical method)	3%	5%	5%	
Condoms	1%	3%	2%	
Higher order methods**	11%	24%	19%	*
Provision of method	39%	48%	45%	
Mean number of discussion items	1.4	2.4	2.0	*
Number of clients	138	244	382	

* Denotes significant difference between GOB and NGO (95% level of confidence)

** Pill, injection, IUD, Norplant, tubectomy, vasectomy

Table 5.4. Content of Discussion with FWA/FWs - Injectable Users

Discussion item	GOB	NGO	Total	
Side effects	14%	15%	14%	
Family planning	7%	12%	9%	
Injectables	1%	2%	1%	
Higher order methods**	4%	13%	8%	*
Mean number of discussion items	1.7	2.3	2.0	*
Number of clients	246	205	451	

* Denotes significant difference between GOB and NGO (95% level of confidence)

** IUD, Norplant, tubectomy, vasectomy

Intra-uterine devices (IUDs) are not supplied by FWAs or FWs and for that reason Table 5.5 is restricted to an analysis of the content of discussion with IUD users visited by field workers. Again the data give little impression of substantive content, although discussion of side-effects occurs in about one in six of these meetings with clients and there are minor but significant differences between Government and NGO workers. Both FWAs and FWs visit substantial numbers of clients who have either been sterilized themselves or whose husbands have been sterilized. Table 5.6, restricted to tubectomy cases, indicates that meetings between family planning workers and these clients are devoid of relevant content, or even any content, given the tiny mean number of items discussed.

Table 5.5. Content of Discussion with FWA/FWs - IUD Users

Discussion item	GOB	NGO	Total	
Side effects	17%	14%	16%	
Family planning	1%	5%	3%	*
IUDs	-	5%	2%	*
Higher order methods**	1%	3%	2%	
Mean number of discussion items	1.7	2.1	1.9	*
Number of clients	132	129	261	

* Denotes significant difference between GOB and NGO (95% level of confidence)

** Tubectomy, vasectomy

Table 5.6. Content of Discussion with FWA/FWs - Tubectomy Users

Discussion item	GOB	NGO	Total	
Side effects	4%	4%	4%	
Family planning	-	1%	1%	
Tubectomy	-	1%	1%	
Mean number of discussion items	1.2	1.7	1.4	*
Number of clients	242	170	412	

* Denotes significant difference between GOB and NGO (95% level of confidence)

A reasonable summary of Tables 5.2 to 5.6 is that the quality of meetings with clients ostensibly depends very heavily on whether they are using methods which are supplied by the field workers, yet approximately 20 per cent of clients are not in this category. In almost every row of each of the five tables, the percentages of meetings in which important discussion items occurred, and the mean numbers of items discussed, were greater for NGO workers than for GOB workers, although the differences do not always reach levels of statistical significance. The impression of somewhat higher quality, in the case of NGO workers, is inescapable - but in a context of apparently low overall quality.

The impression of greater quality of interaction with clients of NGO workers is modified somewhat when the case of non-users is considered, in Table 5.7. The important difference is in the large category of non-pregnant non-users with no child under the age of six months, for whom motivation to use family planning is important. Note that this category contains 1,553 women, much larger than other categories contained in the previous analyses. For these women, the government workers are significantly more likely to provide motivation for family planning than the NGO workers do, although even in this case the mean number of discussion items is slightly lower for GOB workers than NGO workers. Notice, on the other hand, that for the much smaller category of women who have recently given birth the NGO workers are more likely to discuss family planning, to discuss specific methods, and, importantly, to motivate the clients to use family planning. In accounting for the greater attention to motivating clients given by Government FWAs to women who are not using a method, are not pregnant and have no young children, part of the explanation might therefore be that the NGO field workers embark on motivation at an earlier stage, after the birth of a child, than FWAs. Timing of motivational activity is nevertheless unlikely to form a complete explanation.

The extent to which family planning workers reach clients is also important in explaining differences in level of motivational activity. The table does not explicitly show that a considerably larger proportion (43 per cent) of the clients of the NGO workers are non-users than is the case for GOB workers (34 per cent). That is to say, for both types of worker the study population has a majority of users among the clients. Nationally, non-use of any modern method of contraception by currently married women is 64 per cent and more than half of every age group (Mitra *et al.*, 1994: 44), so it is clear that neither the Government nor the NGO workers cover non-users at all completely in the areas covered

by the study. Contact between the service delivery system and clients has been found to be an important factor in the acceptance of modern methods (Khan and Rahman, 1995).

Table 5.7. Content of Discussion with FWA/FWs - Non-Users of Family Planning

Type of client and discussion item	GOB	NGO	Total	
Pregnant client				
Motivation to attend clinic	11%	18%	14%	
Maternal and child health	60%	67%	62%	
Mean number of discussion items	2.1	2.6	2.3	*
Number of clients	211	167	378	
Client with child <6 months				
Motivation for family planning	19%	43%	32%	*
Family planning	15%	38%	28%	*
Motivation to attend clinic	5%	8%	7%	
Maternal and child health	36%	38%	37%	
Mean number of discussion items	2.8	4.0	3.4	*
Number of clients	124	149	273	
Other non-users				
Motivation for family planning	44%	37%	40%	*
Family planning	32%	32%	32%	
Mean number of discussion items	2.4	2.8	2.6	*
Number of clients	661	892	1,553	

* Denotes significant difference between GOB and NGO (95% level of confidence)

Quality of interactions: time spent with clients

Tables 5.8 and 5.9 deal with a less direct measure of quality, namely the time spent with clients. As might be expected, family planning workers spend more time with new acceptors than they do with continuing users, and among users they spend more time with those receiving new supplies than with those who do not. In all three categories, that is of acceptors, continuing users receiving supplies and continuing users not receiving supplies, the NGO workers spend on average half of one minute or more with clients than GOB workers.

Table 5.8. Mean Time with Family Planning Clients (Minutes)						
	GOB			NGO		
	Acceptor	User		Acceptor	User	
		Supplied	Not supplied		Supplied	Not supplied
Oral pills	6.4	3.6	3.8	7.6	4.6	4.3
Condoms	11.3	5.6	4.6	7.9	5.0	6.3
Injectables	*	7.8	3.1	*	*	3.7
IUDs	*	-	3.9	*	-	4.0
Norplant	*	-	*	*	-	*
Tubectomy	*	-	3.2	*	-	3.2
Vasectomy	*	-	1.9	*	-	4.1
Total	7.5	4.4	3.5	8.0	5.1	4.2

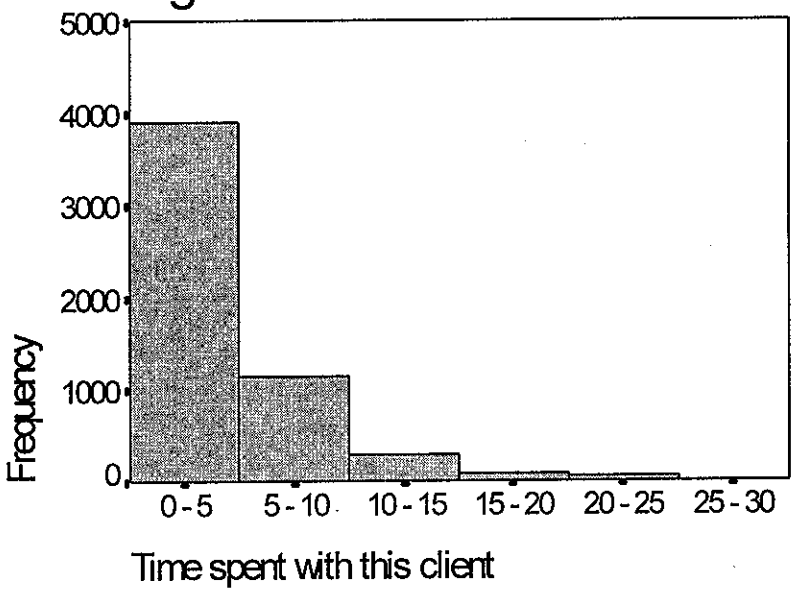
* Less than ten cases. - Not applicable

Table 5.9. Mean Time with Clients not Using Family Planning (Minutes)		
	GOB	NGO
Pregnant	3.3	5.2
Child < 6 mths	5.2	5.8
Other	4.3	4.1
Total	4.2	4.4

The NGO workers also spend more time with pregnant clients and those with children less than six months old, than do GOB workers. But as might have been expected from the previous discussion of the content of interactions with other non-users (in Table 5.7), Table 5.9 shows that the FWAs working for the Government spend slightly more time with clients who are not using a method of family planning, are not pregnant and do not have infants less than six months old than FWs working for NGOs do. This is consistent with the greater motivational activity undertaken by the Government workers.

The distribution of time spent with clients has a very long tail, of which only a portion is shown in the following figure (Figure 1). Just over 90 per cent of meetings with clients take less than ten minutes, and less than one per cent last longer than thirty minutes, but the maximum recorded in the sample was 96 minutes. The figure includes only those clients included in Tables 5.2 to 5.7.

Figure 1



Accounting for the large variation in the time spent with clients cannot be done in an entirely satisfactory manner using the survey data, because only the total time spent with clients is recorded, but there are strong clues about the reasons and indeed a reasonable model of the components can be constructed. The reasons for variation can be seen by examining the extent to which important items of discussion, as defined in the previous analysis for different types of clients, are included in meetings with clients according to the length of the meeting. Important items of discussion, along with other items, are shown in Table 5.10, which is again restricted to clients included in Tables 5.2 to 5.7 so the table population is slightly lower than for Table 5.1.

Some discussion items, for example what is described as 'discussion of general welfare', appear with approximately equal frequency no matter what the length of the meeting, and this can be taken as an indication that they do not account to any significant extent for variation in the length of meetings with clients. Items listed in Panel A of the table are not necessarily important for meetings with certain types of clients, and where they are not

important as defined in the earlier analysis, they have been included under Panel B as 'other specific items'. Except for the very first discussion item (side-effects) there is significantly greater likelihood of inclusion of the item in a meeting in the case of longer meetings, according to the τ_b ordinal statistic, which was assessed at the 95% level of confidence for each item. It can be seen that the major difference is between meetings of less than five minutes, which constitute the majority of all meetings, and meetings of any longer duration. For most discussion items, the likelihood that they are included in the worker-client interaction is reduced by half or more if the meeting is less than five minutes. This is hardly surprising, but a concern because most meetings are shorter than five minutes.

Table 5.10. Discussion content, meetings of various length

	Length of Meeting with Client				
	Less than 5 mins	5 to 9 mins	10-14 mins	15 or more mins	All meet-ings
A. Important items of discussion -					
Discussion of side-effects	4%	4%	6%	5%	4%
Motivation to use family planning	10%	22%	26%	18%	14%
Discussion of family planning	13%	33%	40%	33%	19%
Motivation to visit clinic	2%	6%	5%	5%	3%
Current method discussed	1%	3%	4%	2%	1%
'Higher order' methods discussed	12%	31%	36%	31%	18%
Maternal and child health	5%	8%	7%	9%	6%
Provision of method	23%	27%	27%	27%	24%
B. Other items of discussion -					
Other specific items*	11%	23%	28%	27%	15%
Discussion of general health	20%	41%	39%	34%	26%
Discussion of general welfare	71%	77%	74%	75%	72%
Other discussion	18%	33%	47%	55%	24%
N	3,903	1,128	291	206	5,528

* Not considered important in Tables 5.1 to 5.7

While the major difference is between meetings of less than five minutes and those of any longer duration, the outstanding exception is the last item shown in the table, which is titled 'other discussion'. It occurs in 55 per cent of meetings of 15 minutes or more, compared with only 18 per cent of meetings of less than 5 minutes and steadily increasing occurrence in the intermediate duration categories. There can be little doubt that it is the single major components of variation in the length of meetings, even if the evidence is indirect.

Panel B of Table 5.10 provides a more general insight into the composition of meetings between family planning workers and their clients which has not necessarily been evident in the earlier analysis. This is that meetings of any length usually contain a large element of general discussion and often contain discussion of general health and welfare of the clients. These things might not be strictly important to the provision of services but are no doubt significant components of acceptable interactions with clients. There can also be doubt about whether endless repetition of important items of discussion in successive meetings with clients is desirable. If a family planning worker spent time on her previous visit discussing side-effects of oral contraceptives with a client, or motivating the client to accept a higher-order method, it might well detract from her acceptance at the client's home if she insists on discussing the same topics again, and again, and again.

If the discussion items which have been analysed are capable of explaining much of the variation in the length of encounters between family planning workers and their clients, then it is possible to estimate the contribution of each item to the length of the encounter, using the method of linear regression. The opportunity can also be used to assess whether the content of meetings is sufficient to explain differences, in the length of meetings, between GOB and NGO workers. The regression model[12], shown in Table 5.11, is certainly speculative, because as has been noted the length of time devoted to each item of discussion was not recorded separately, but the model provides a good fit to the data and serves to distinguish items which add most time to the length of meetings.

[12] The regression was calculated first with a constant term, which was found to be not significantly different from zero. This means that the variables included in the model are sufficient to explain the variation in length of meetings, and it was possible to calculate the model given above, excluding the constant term. The results are very similar with or without the constant. A (forward) stepwise regression procedure was used so that explanatory variables with coefficients indistinguishable from zero at a 95% level of statistical significance were excluded.

Table 5.11. Model of length of time devoted to each discussion item included in discussions between FWAs/FWs and clients

	Seconds added	T Value
A: Important items of discussion -		
Discussion of side effects	44 secs	2.3
Motivation to use family planning	37 secs	2.7
Discussion of family planning	92 secs	7.0
Motivation to visit clinic	50 secs	2.3
Discussion of current method	*Not significant**	
Higher order methods discussed	*Not significant**	
Maternal and child health	63 secs	3.8
Provision of method	45 secs	5.0
B: Other items of discussion -		
Other specific items	46 secs	3.9
Discussion of general health	70 secs	7.8
Discussion of general welfare	19 secs	2.5
Other discussion	160 secs	18.3
C: Control variables -		
Time with other clients (per hour)	84 secs	19.3
Time between clients (per hour)	*Not significant**	
NGO (compared with GOB)	*Not significant**	
Rural (compared with urban)	21 secs	2.9
Multiple r^2	0.50	

* Excluded from model

Note that discussion of current method and higher order methods are not significant in this model, but they are highly correlated with the item for general discussion of family planning, and indeed they more or less define that variable, which according to the model takes the largest amount of time among the important items of discussion. Other discussion items which apparently increase the length of meetings by a large amount are, in order of length of time, 'other' activity, discussion of general health, and maternal and child health (where relevant). Other discussion items apparently have between half of one minute and one minute devoted to them. Note that general discussion seems to be quite short.

Counter to intuition, longer meetings with clients are associated with longer time spent with other clients, in that each hour spent with other clients is associated with 84 extra seconds with each client. Given that the average time spent with other clients is only 1 hour 25 minutes for the day, this does not actually add much to the length of meetings, but the counter-intuitive nature of the result can be interpreted as indicating differences between field workers in quality of the work done.

Time spent travelling between clients is not a significant factor in this model. Note also that rural location adds a small amount to the length of encounters with clients, although travel time is positively correlated with rural location, albeit weakly.

The variable distinguishing NGO Field Workers from GOB Family Welfare Assistants is not significant in determining the length of meetings. Although it might not appear so at first, the finding is both consistent with and extends the earlier analysis. The finding is consistent because the model takes account of differences between NGO and GOB workers in the content of their discussions with clients. It extends the earlier analysis because it implies that there are no other major differences between family planning workers other than the extent to which they carry out the activities which are described in the model, in determining the length of their meetings with clients.

Conclusion

By analysing the content of a large number of interactions between family planning workers and their clients, this paper has shown that many important items of discussion rarely occur. For example, family planning workers discuss side effects of oral contraceptives with only about 24 per cent of new acceptors of this method of family planning, and with 6 per cent of continuing users of oral contraceptives, 14 per cent of continuing users of injectables, 16 per cent of users of IUDs and 4 per cent of clients who have had tubal ligations.

They discuss higher order methods, meaning methods that are more effective or have longer effect, with only 17 per cent of oral contraceptive users, 19 per cent of condom users, 8 per cent of injectable users and 2 per cent of IUD users.

The important items which appear with most frequency are motivation for family planning among new acceptors of oral contraceptives and condoms, at 71 per cent of oral contraceptive acceptors and 67 per cent of condom acceptors, and general discussion of family planning or the particular method among new acceptors of these two methods. Among continuing users of methods, no important item of discussion occurs with a frequency as high as 20 per cent. Users of methods which were not actually supplied by the family planning workers in the field were the least likely to have had discussions about important items of information.

Among non-users of family planning, discussion of maternal and child health occurred in 62 per cent of meetings with pregnant clients and 37 per cent of clients with children aged less than six months, and non-users were also quite likely to have had discussions with family planning workers about some method of family planning (28 per cent of clients with children less than six months, and 32 per cent of other non-pregnant non-users) or to have been motivated by the family planning workers to accept a method (32 per cent of clients with children less than six months, and 40 per cent of other non-pregnant non-users).

Where significant differences between Government workers (FWAs) and NGO workers (FWs) were detected, they were almost always in favour of the NGO workers. The important exception was for motivation of non-pregnant non-users with no children aged less than six months, a large group containing more than a quarter of all clients, and who were significantly more likely to have received motivation towards family planning if they were visited by a Government worker.

Discussion recorded as discussion of general welfare occurred with more frequency than any other item, in 72 per cent of all meetings between family planning workers and clients. Provision of a method of family planning occurred in about a quarter of all meetings, as did discussion of general health, and so did 'other discussion', meaning nothing to do with family planning, health or welfare. It was this item that appeared to be most closely related to the length of meetings.

Seventy per cent of meetings between family planning workers and their clients lasted less than five minutes, even though there was a distinct relationship between the length of meetings and the amount of important content they contained. Meetings of more than five

minutes, no matter how much longer, were much more likely to contain the discussion items considered to be important.

The results of the analysis can be viewed in two ways. In the first place, they show that generally the interactions between family planning workers and clients are brief and lack much of the content that they would be expected to contain. Meetings also contain a considerable amount of less apparently important content, which might nevertheless be important in the context of maintaining good relations with clients. Variation in the length of meetings between field workers and clients seem on the whole to be associated with these less important matters more than important activities.

Secondly, it is clear that NGO workers covered in the survey provide a somewhat better quality of service to their family planning clients than the Government workers, although by this analysis the general standard was low. However, the Government workers do appear to provide a better quality of service to those non-users who are not pregnant and do not have young infants, with greater emphasis on motivating them to accept family planning.

The survey data provide an uncommon insight into the content and structure of meetings between doorstep providers of family planning services in Bangladesh and the clients they serve. To the extent that the description points to inadequacies in these services, and differences in the nature of services provided by Government and NGO providers, it may serve to provide guidelines for improving the services. Caution would need to be exercised in revising existing guidelines and instructions. For example, it might seem that the time spent with clients is generally far too short to allow for quality interaction in most cases, and that a service of greater quality could be achieved with smaller workload, although improving the efficiency of work done and lengthening the required workday would clearly also be beneficial. The analysis also shows that longer meetings with clients result in a longer workday, in that the time spent with any one client is actually positively associated with the time spent with other clients. While this no doubt reflects differences in the quality of work done done by individual workers, it could also mean that reduction in workload would merely result in an even shorter working day, for those workers who currently spend less time with clients.

A policy initiative which would have more predictably worthwhile results would be to strengthen the training and motivation of family planning workers to emphasize the types of activities which are most fruitful in their dealings with clients of different types. These are: for acceptors, motivation for family planning and discussion of the method which is to be used; for acceptors and users of hormonal methods and IUDs, discussion of side effects; for users of most methods, motivation towards higher-order methods, meaning those that are more effective or have longer effect; for non-users except those who are pregnant, motivation to use family planning and specific methods that might be suitable; and for pregnant women and those with young children, maternal and child health. As we have seen, these items often occur with disturbingly low frequency.

Clearly the most important item that should be given emphasis is method side-effects. With perceived side effects being the major reason for contraceptive discontinuation in Bangladesh, especially for pills, IUDs and injectables (Mitra *et al.*, 1994: 61-62), the low incidence of discussion of side effects of these methods is one of the most worrying features of the analysis. Previous studies have shown that outreach to clients at household level can have an impact on method continuation, including clients using long-term methods such as IUDs (Hossain *et al.*, 1994).

In view of the disturbingly low occurrence of discussion of anything of importance in meetings between family planning workers and women who are using methods not supplied by family planning workers, policy consideration should also be given to curtailing visits to these clients or reducing their frequency. This could be done at different levels, for example by cutting out visits to tubectomy acceptors altogether, and by having a schedule of visits to users of IUDs (two in the first six months, then one visit every six months).

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